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ABSTRACT

This activities handbook is designed to give access to math activities appropriate for preschool children. Six areas are covered in the guide: (1) counting, (2) geometry, (3) numerals, (4) money, (5) pre-number experience, and (6) measurement. Included within each area are fingerplays and learning activities. The learning activities are designed for use on an individual, small-groups, or whole-group basis. Visuals are included throughout the handbook for use as bulletin board aids. Appended material includes suggested math resources, shape and numeral patterns, math vocabulary terms, and checklist for math presentations. (LRA)

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AN ACTIVITIES HANDBOOK FOR CHILD CARE:

MATH

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PREFACE

"I am three years old. See how high I can climb. The clock says snack time. Let's read the **Three Little Pigs.** *We need one cup of milk for our pudding. The wheels on the bus are round."* Math concepts for early childhood surround the child's daily life, and can be included in every area of curriculum.

There is a demand for math materials to be used in the home economics child care curriculum. However, many teachers feel uncomfortable teaching math. To an adult, math may imply complicated formulas. For a child, math may mean simply an opportunity to explore his/her world.

This handbook is directed to both the teacher and the student of child care. The teacher may find it helpful as a reference for incorporating math ideas into the child care curriculum. The student may use the handbook as a resource for planning math activities for children three to six years of age. The learning activities can be planned on an individual, small group or whole group basis. Often when a math activity is explained or demonstrated to a whole group, it can be adapted to an individual or small group activity.

An Activities Handbook for Child Care: MATH has been compiled to give quick and easy access to math activities appropriate for preschool children. Some are designed to provide practice in classroom related skills, while others will serve to encourage creativity on the part of the students. These activities are suggestions and are intended to create awareness of the range of possibilities for enhancing the child care curriculum. The suggestions presented here are not meant to be inclusive.

The visuals included throughout the handbook are for use as bulletin board aids. These can be "blown-up" with an opaque projector or copied onto a transparency sheet and enlarged with the overhead projector. These visuals can be used to present various ideas in the home economics curriculum.

Many of the materials included in the handbook are not new, but have been utilized by parents, teachers, and students through the years. These works added a great deal of interest and usefulness to the materials.

For the answers to what shall we teach in math, turn the page!

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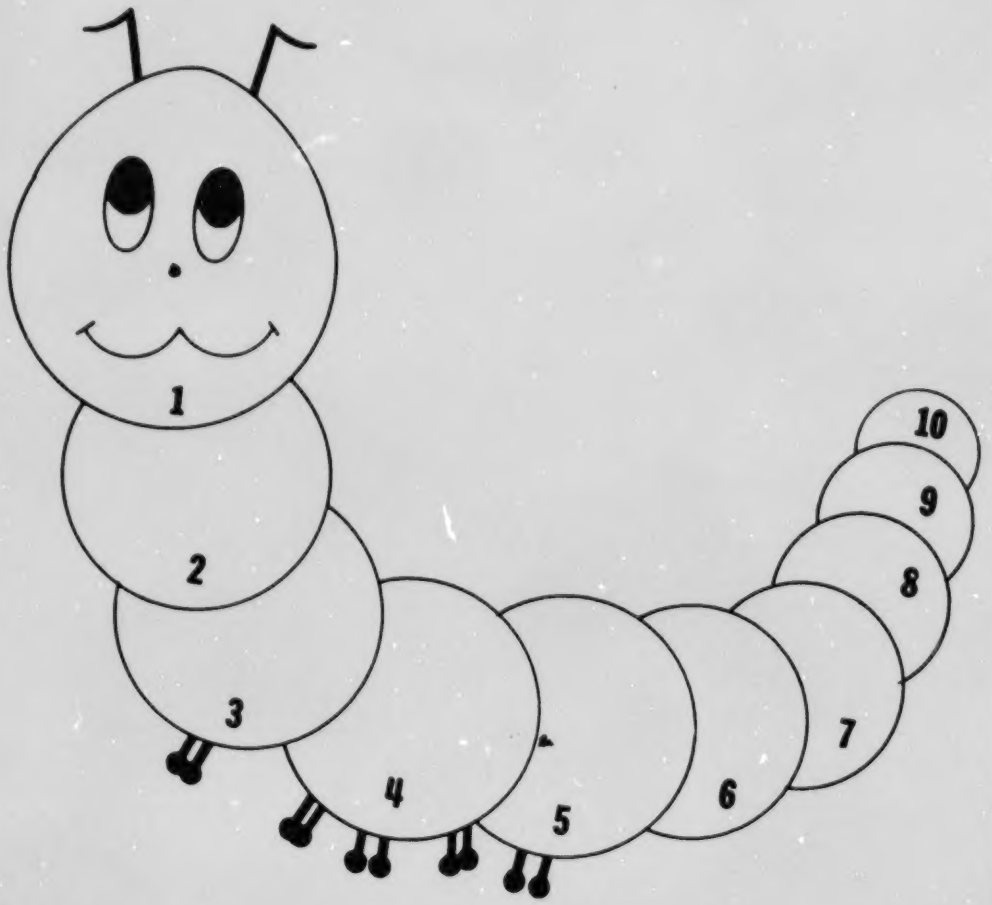
COUNTING



I. COUNTING

A. Fingerplays, Songs, Poems

Johnny Works With One Hammer

Johnny works with ***one*** hammer,
One hammer, one hammer,
(use one fist and "hammer" one knee)
Johnny works with one hammer,
Then he works with ***two***.

Johnny works with ***two*** hammers
Two hammers, two hammers,
(use two fists and "hammer" both knees)
Johnny works with **two** hammers,
Then he works with **three.**

Johnny works with **three** hammers.
(use two fists and one foot)
Three hammers, three hammers,
Johnny works with three hammers,
Then he works with **four.**

Johnny works with **four** hammers,
(use two fists and two feet)
Four hammers, four hammers,
Johnny works with four hammers,
Then he works with **five.**

Johnny works with **five** hammers,
(use two fists, two feet and head)
Five hammers, five hammers,
Johnny works with five hammers,
Then he goes to sleep.

Counting

A little ball, *(Little ball made with one hand)*
A larger ball *(Larger ball made with two hands)*
A great big ball I see; *(Large circle made with arms)*

Now let us count the balls we've made *(Make ball as counted)*
One, two, three.

Little Fingers Dance With Me

Little fingers dance with me 1, 2, 3, 4, 5,
Little fingers dance with me, you are quite alive.
One goes up, and two goes down, three goes up and four goes down.
What shall we do with little five, little five will take a dive.
Little fingers dance with me, 1,2,3,4,5,
Little fingers dance with me, you are quite alive.

Two Little Pigeons

There were two little pigeons with nothing to do
One was named Bill
(raise index finger on left hand, shake finger)
The other was named Coo.
(raise index finger of right hand, shake finger)
Pigeon Bill said, "Before it gets dark,
I'm going to take a walk in the park."
Pigeon Coo said, "That's just for people,
I'm going to fly around that steeple."
(make a steeple with hands)

Beehive

Here is a beehive
(hands cupped)
Where are the bees?
Hiding away where nobody sees.
They're coming out now
They're all alive.
1, 2, 3, 4, 5,
(using fingers, extend one by one)
Buzz-z-z-z-z-z-z-z

Two Little Apples

Two little apples sitting on a tree
(hold up 2 fingers, one on each hand)
One little apple smiled at me.
(hold up one finger)
I shook that tree as hard as I could
(hold hands together and shake)
Down came the apples. Yum, yum, weren't they good!
(rub stomach)

Five Little Yellow Birds

Five little yellow birds
Were singing at the door.
One flew away
And then there were four.

Four little yellow birds
Were singing for me.
One flew away.
And then there were three.

Three little yellow birds
Were singing for you.
One flew away
And then there were two.

Two little yellow birds
Were singing in the sun.
One flew away
And then there was one.

One little yellow bird
Was singing at the door.
One flew away—
There aren't any more.

Little Fingers

One little finger, One little finger,
One little finger, Clap, Clap, Clap
Point to the ceiling, point to the floor
And lay it in your lap.

Two little fingers, Two little fingers
Two little fingers, Clap, Clap, Clap
Point to the ceiling, point to the floor
And lay **them** in your lap.

Continue on through (5) five or even to (10) ten fingers if the interest remains high.

The Cuckoo Clock

(can be used as a chant)

Tick! Tock! Tick! Tock! Tick! Tock! Tick! Tock!
(swing arms in front in pendulum motion; have hands together)
High on the wall hangs grandma's clock;
(point up high on the wall)

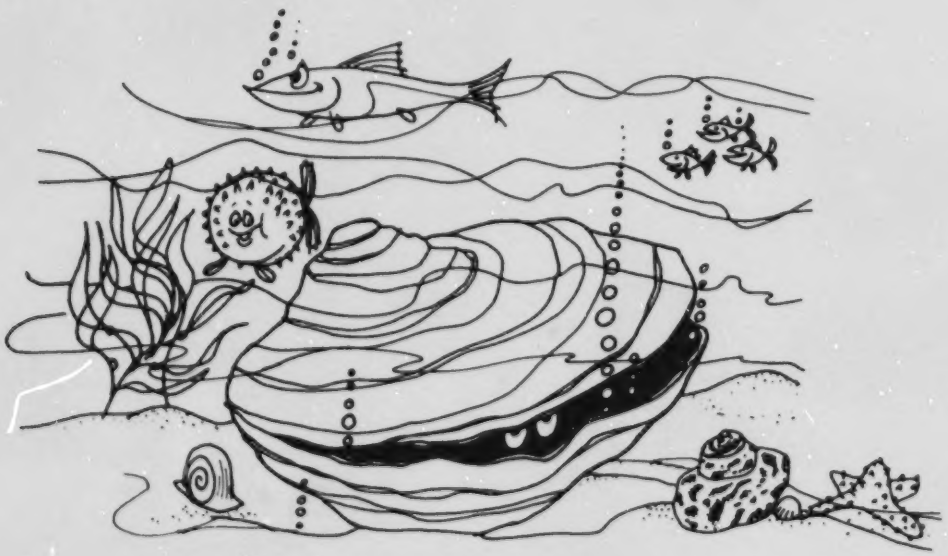
One and two and three and four
(raise fingers one at a time)
Then flies open a little door;
(spread hands in front of you with fingers up)

A bird hops out and bows to you
(raise right hand in fist, forefinger slightly higher and clasp wrist with left hand)
"Cuckoo! Cuckoo! Cuckoo! Cuckoo!"
(bob hand forward as bird bows.)

Seashell

(place a seashell on the end of each finger and remove as poem progresses)

Five little seashells lying on the shore;
Swish! went the waves, and then there were **four.**
Four little seashells cozy as could be;
Swish! went the waves, then there were **three.**
Three little seashells are pearly new;
Swish! went the waves, and then there were **two.**
Two little seashells sleeping in the sun;
Swish! went the waves and then there was **one.**
One little seashell left all alone;
Whispered "Shhhhhhhhhhhhh" as I took it home.



Five Little Ducks

Five little ducks went out to play,
Over the hills and far away.
Mother Duck said "Quack, quack, quack, quack,
Four little ducks came running back.

Four little ducks went out to play,
Over the hills and far away.
Mother Duck said, "Quack, quack, quack, quack,"
Three little ducks came running back.

Three little ducks went out to play,
Over the hills and far away.
Mother Duck said, "Quack, quack, quack, quack,"
Two little ducks came running back.

Two little ducks went out to play,
Over the hills and far away.
Mother Duck said, "Quack, quack, quack, quack,"
One little duck came running back.

One little duck went out to play,
Over the hills and far away,
Father Duck said, "QUACK, QUACK, QUACK, QUACK!!!!!
Five little ducks came running back.

Five Little Kittens

Five little kittens
Sleeping on a chair;
One rolled off,
Leaving four there.

Four little kittens
One climbed a tree
To look into a bird's nest,
Then there were three.

Three little kittens
Wondered what to do;
One saw a mouse,
Then there two.

Two little kittens
Playing near a wall;
One little kitten
Chased a red ball.

One little kitten
With fur as soft as silk,
Left all alone
To drink a dish of milk.

FIVE LITTLE SOLDIERS

Five little soldiers standing in a row,
(hold up 5 fingers)
Four stood straight and one stood so.
(hold up 4 fingers and bend thumb into palm of hand)
Along came the captain and what do you think?
Up jumped the soldier as quick as a wink.
(hold up all 5 fingers)

Five Little Leaves

(Adaption to "Five Little Chickadees.")

Five little leaves, lying by the door,
One blew away, and then there were four.

Refrain:

Red leaf, brown leaf, happy and gay,
Red leaf, brown leaf, blow away.

Four little leaves, lying by a tree,
One blew away, and then there were three.

Refrain:

Three little leaves that blew and blew,
One blew away, and then there were two.

Two little leaves, lying in the sun,
One blew away, and then there was one.

Refrain:

One little leaf, left all alone,
It blew away, and then there was none.

Refrain.

Five Little Cuddly Bears

Five little cuddly bears, rolling on the ground,
The first one said, "Hey let's look around."
The second one said, "I see a bunny."
The third one said, "I smell honey."
The fourth one said, "It's over in the trees."
The fifth one said, "Look out! Here come the bees."

Ten Little Tug Boats

(Fasten a small silhouette of a tug boat to each finger, making each a difference color. Place fingers outspread, palms down, on flat surface in front of you. Move both hands away from body slightly after each couplet. Bend the little finger of left hand under. Keep bending a finger or thumb under as you say each couplet.)

Ten little tug boats out in the bay.
Let's see how they get through the day.

Ten little tug boats coming down the line;
One goes to work, and now there are nine.

Nine little tug boats keep their row straight;
But one slows down, so now there are eight.

Eight little tug boats — one blue as heaven.
It needs repairs, and so there are seven.

Seven little tug boats are up to tricks;
One backs up, so now there are six.

Six little tug boats. Goodness sakes alive!
One collides with a barge, leaving only five.

Five little tug boats headed for the shore;
One toots down the bay, which leaves only four.

Four little tug boats are as busy as can be;
One has private business, so now there are three.

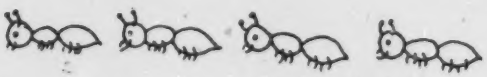
Three little tug boats to take the liners through;
One reports for duty, and now there are two.

Two little tug boats are ready for the run;
One runs out of fuel; that leaves only one.

The last tug boat pulls a liner to shore.
He finally makes it, and there aren't any more.

Five Little Ants

Five little ants in an ant hill,
(closed fist, palm down, all fingers wiggling a bit)
Busily working and never still.
Do you think they are alive?
See them come out
1 - 2 - 3 - 4 - 5!



Two Little Blackbirds

The leader chants the verse, leader and children do the actions.

Two little blackbirds
(Clench fists, thumbs sticking up)
Sitting on a hill.
One named Jack
(Wiggle left thumb)
One named Jill.
(Wiggle right thumb)
Fly away Jack,
(Flap left arm with big movement and thumb wiggling. Put fist behind back)
Fly away Jill.
(Flap right arm with big movement and thumb wiggling. Put fist behind back)
Come back Jack.
(Bring left fist forward. Wiggle thumb)
Come back Jill.
(Bring right fist forward. Wiggle thumb.)

Five Little Squirrels

Five little squirrels sitting in a tree
(fingers on left hand serve as squirrels)
This little squirrel says: "What do I see?"
(point to each finger in turn)
This little squirrel says: "I see a gun."
(forefinger on right hand pointed as gun)
This little squirrel says: "I'm not afraid."
This little squirrel says: "Let's hide in the shade."
Along came a man with a great big gun—*pause*—B A N G!
(clap hands for noise)
Did you see those little squirrels run?
(hide hands behind back)

14

Five Little Pigs

(While reciting the rhymes teacher and child seize each finger consecutively)

This little pig danced a merry, merry jig.
This little pig ate candy.
This little pig wore a blue and yellow wig,
This little pig was a dandy.
This little pig never grew to be big—
So they called him Tiny Little Andy.

This little pig went to market.
This little pig stayed at home.
This little pig had roast beef.
This little pig had none.
This little pig cried, "Wee, wee, wee,
I can't find my home.

(count off fingers)

Fish

(Teaches the numbers one through five and also the idea of "right hand.")

One, two, three, four, five,
Catching fish all alive.
"Why did you let them go?"
"Because they bit my finger so."
"Which finger did they bite?"
"The little finger on the right."

Five Little Chickadees

(When singing a counting song, announce the number before each verse. Be sure that singers are holding up the correct number of fingers before you start to sing.)

Refrain: Chickadee, chickadee, happy and gay.
(make flying motions with arms)
Chickadee, chickadee, fly away.

Five little chickadees
(hold up five fingers)
Peeping at the door
One flew away, then there were four.
(lower thumb)

Refrain:

Four little chickadees
(hold up four fingers)
Sitting on a tree;
One flew away, and then there were three.
(lower pointer finger)

Refrain:

Three little chickadees
(hold up three fingers)
Looking down at you,
One flew away, and then there were two.

Refrain:

Two little chickadees
(hold up two fingers)
Sitting in the sun,
One flew away, and then there was one.
(lower ring finger)

Refrain:

One little chickadee
(hold up one finger)
Left all alone,
He flew away, and then there was none.
(close fist)

Refrain:

Variations: Children can act out this story-song in other ways. Five children stand in front of a group. Each one in turn "flies to his/her seat at the appropriate time in the song. Or players form a circle with five children in the center. Each one in turn "flies" out of the circle, around it, and takes a place in the circle.

Five Funny Clowns

(Adaption: "Five Little Chickadees)

Five funny clowns playing on the floor,
One ran away and then there were four.

Refrain:

Funny clown, funny clown, happy and gay,
Funny clown, funny clown, run away.

Four funny clowns looking at me.
One ran away and then there were three.

Refrain:

Three funny clowns looking at you,
One ran away and then there were two.

Refrain:

Two funny clowns having lots of fun.
One ran away and then there was one.

Refrain:

One funny clown started to run.
He (she) ran and ran and then there was none.

Refrain:

The Chickens

Five little chickens lived in a pen.
(hold up right hand)
The name of their mother was Mrs. White Hen.
(hold up thumb of other hand)

The chickens went out for a walk one day.
(hold up right hand)
Each of them went a different way.
(spread fingers of right hand)

This little chicken saw a brown dog
(point to thumb of right hand)
This one saw a little green frog.
(point to first finger)

This little chicken saw a black cat
(point to middle finger)
This one saw a piggy quite fat!
(Point to fourth finger of right hand)

This chicken saw a little gray mouse
Running around the side of the house.
(point to little finger)

(Excellent flannel board story)

Ten Little Indians

Ten little Indians dancing in a ring
(extend 10 fingers and dance them)
Ten little Indians, hear them sing! Ooooooooooo-ooooooo!
(make war cry)
Ten little Indians wave tomahawks high
(pretend to wave over head)
Ten little Indians give their war cry! Ooooooooo-ooooooo!
Ten little Indians in a teepee;
(bring fingertips together, making point over head)
Ten little Indians quiet as can be!
(fold hands)
Shhhhhhhhhh!
(finger at lips)

Five Strong Policemen

Five strong policemen standing by a store
One became a traffic cop; now there are four.

Four strong policemen watching over me
One took home a lost boy, now there are three.

Three strong policemen dressed all in blue
One stopped a speeding car, then there were two.

Two strong policemen; how fast they can run
One caught a bad man, then there was one.

One strong policeman saw some smoke one day
He called the fireman; who put out the fire right away.

B. Learning Activities

1. Kerplunk

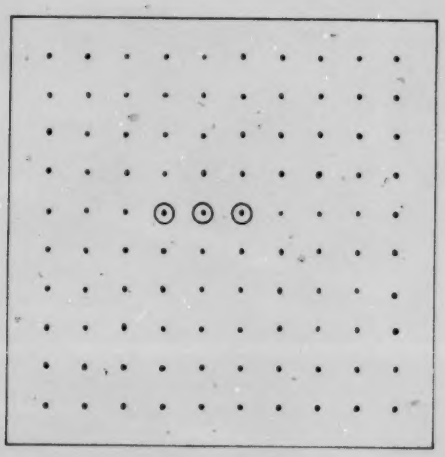
Use a metal coffee can or metal measuring cup and 10 metal washers, wooden beads, dried beans, large paper clips, or other objects which will make a noise when dropped in the cup. The teacher drops one object into the can and the children count each "Kerplunk." After several times, a child may be called on to drop the objects and count. A good transition activity.

2. Dominoes

Make or purchase large dominoes. To make, cut 30 pieces of heavy cardboard 3 3/4" x 1 7/8". Paint or paste dots on the cardboard. Use every combination of zero to five, including blanks. A child may play alone or in groups. For group play, pass five dominoes to two players, place the others face down at the side as a "bank." The first child puts any domino in the center, the next player matches one end of this if he/she can; if not, he/she may take one from the bank but must keep it if it does not match. The first child to get rid of all his/her dominoes wins. This activity teaches children to count and match dots as well as game discipline.

3. Peg Boards

Use peg board pattern cards and peg board sets. To make the pattern cards, duplicate a 10" x 10" pattern guide or an identical size to the peg board used. The guides should be in sequential order. Begin with card **one** and proceed to card **ten.** Card one should be a simple line of three "pegs." The "pegs" are holes punched from colored contact paper or construction paper and cemented onto the pattern guide. This is then covered with clear contact paper and labeled No. 1 on the back. Continue for all ten cards, adding more "pegs" to each card. The child is asked to duplicate from the patterns placed beside the board. The child counts the "pegs" and places them in the board. Color recognition is also taught.



4. **Outdoor Count**

Use every opportunity to help children recognize the number of objects outdoors. For example, count the tricycles, sand pails, climbing rungs, steps, teachers, trees, etc.

Variation: Outdoor walk — children are asked to count houses, cars, people, etc. as they walk around the block.

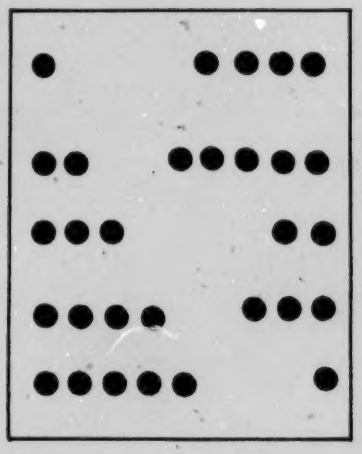
5. **Clap and Count**

The teacher claps and counts asking the children to say the number orally. After several times of all counting together, individual children clap and count alone. The child is asked to clap and count to four, ten, etc.

6. **Matching Board**

Make several 8 1/2" x 11" boards covered with clear contact paper as diagramed below:

The child is to count the number of objects on the left and match with the same number of objects on the right. Use a Vis-a-Vis® pen and draw a line from left to right column. The pen marks can be erased by using a damp paper towel.



7. **Felt Board**

Have felt boards and felt cutouts available for the children's use. Place a number of cutouts such as four trees on the left side of the board. Ask the child to count the trees and then place the same number of trees on the right side of the board.

Variation: Place the same number of felt cutouts on both sides of the board. For example: 5 hearts on the left and 5 hearts on the right. Ask the children to count both groups and tell if they are the same. Remove one and repeat to see if the children can answer "How many are missing?" or "How many do we need to have the same number on both sides?"

8. **Number Drill**

Spray paint small metal lime juice cans. Place round adhesive labels on the cans in number sequences 1 to 10. (Can use contact paper or glue construction paper circles.) Cover the can with clear contact paper. Using small dowel sticks, pencils, tongue depressors, or plastic straws, the child counts the circles and places the correct number of sticks in the cans.

Variation: Older children can use cans with numeral written on them. They would read the numeral and then place the correct number of sticks in the cans.

9. **Dice Game**

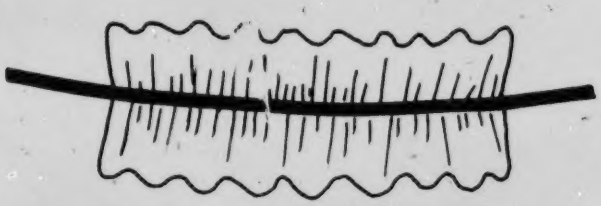
Collect a large number of marbles, play coins, buttons, beans, or other uniform small objects. Place these in a "bank." The children take turns throwing the dice. The child counts the number of the throw and takes the same number of objects from the "bank." Very young children can use only one dice or a cube with dots painted on.

10. **How Many?**

Place on the table a glass bowl filled with wooden beads. Ask each child to "estimate" how many beads are in the bowl? After each child has had a chance, count the beads as they are transferred to another glass bowl. This can be done at the water table with cups in a quart, at snack with cookies on a plate, etc.

11. **Funny Clowns**

Sew gathered nylon net onto ribbon to make a "clown collar." Tie these on five children standing in front of the group time. Ask the children to sing "Five Funny Clowns." (See fingerplays and songs in Section 1A.) As the song progresses, one child runs away to his/her seat until all the clowns are gone. The clowns return at the end of the song and five more children have a chance to be a clown. The teacher will have to direct this activity and help the child run away on "cue."

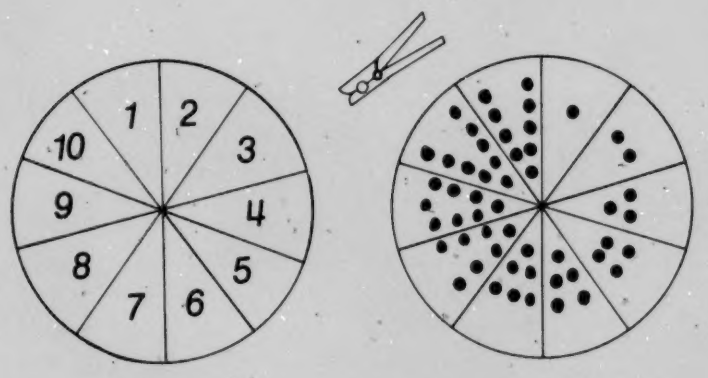


12. **Pies and Pins**

Divide a large-sized pizza cardboard into ten "slices." (Pizza restaurants may give these to you.) On one side of the cardboard, place circles in number sequences of one through ten. Using wooden clothes pins, the child puts the appropriate number of clothespins on each "slice". On the other side write the numerals one through ten. The older child can use this for recognizing numeral and number. Place the correct number of pins on each numeral "slice."

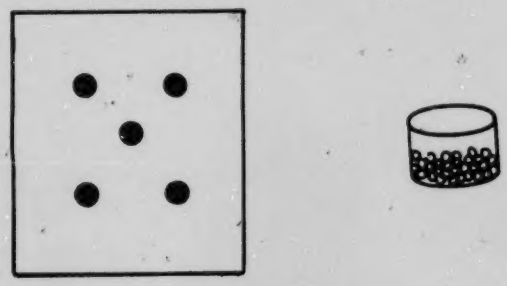
Variation: 1) Use colored plastic clothespins and color the cardboard. Young children can match colored pins to the colored "slice."

2) Write the numeral on the wooden clothespins and have child place the correct numeral to the correct number of circles.



13. **Bean Boards**

Collect ten unlined 5" x 7" index cards. Using a felt-tipped pen, mark dots on the cards in number sequence of one through ten. Place a small plastic container of dried beans on the table. Ask the child to put a bean on each dot on each card. Encourage the child to count the beans orally as he/she matches each dot.



14. **Moving Man**

Arrange three children in a group and three in another group. Count the number in each group. Ask one child to "move" from one group and join the other group. There are now four in one group and two in the other. Count the number of children in the groups. Ask the children if there are the **same** number of children there were in the beginning. Move another child. Repeat the question. Continue until the concept of same and different is understood.

15. **Number Dots**

Make 10 card stands by gluing a wooden clothespin to one-half of a clothespin at the bottom. (See diagram.) Make dot cards by marking the correct number of dots for the sequence of one to ten. Place these ten cards in the ten card stands as shown in the diagram. Give the child a box of table blocks, one inch cubes, discs, etc. The child is instructed to count the dots and place the same number of blocks in front of the stand. Older children could use numerals instead of dots.

16. **Bean Bag Toss**

Set up an area for the toss game. Use a waste basket, box or hoop as the container or "goal." Ask the children to play by tossing the bean bag at the container. Count the bean bags tossed into the container. Limit the game to two children tossing five bean bags. A tally may be kept by one child marking a line on the chalkboard for each bag tossed into the container. Increase the number of bags as children become more efficient. Older children may enjoy tossing at a target such as a clown. (See diagram.)

Variation: Use coffee cans and tuffy scrubbers. The cans can be painted the same color as available scrubbers. Younger children can use this game for color recognition. Older children can "aim" for the colored target. Count the number of scrubbers in the cans.

17. **Bowling Game**

Collect empty Wisk® detergent plastic containers. Fill these one-half full of sand. On one side of the container, mark dots in sequence of 1 to 10. On the other side write the corresponding numeral. Line the ten containers in a straight line. Have the child stand behind a masking tape line or inside a hoop and roll a hard rubber ball toward the "bowling pins." Count the number knocked down. Older children could tally the dots for an addition exercise. Later, use the "pins" for a numeral recognition game.

18. **Carrot Hunt**

Place a set of flannel board rabbits, horses or other animals on the one side of the flannel board. Place a set of flannel board carrots on the other side. Count the animals and then count the carrots. Ask a child to match by pairing each rabbit with a carrot. Add an extra carrot to the set. Count the rabbits and carrots again. Have another child pair the rabbits and carrots. Stress there is one "more" carrot than needed or one "less" rabbit than needed. Continue varying the sets until all the children have had a turn at pairing the sets.

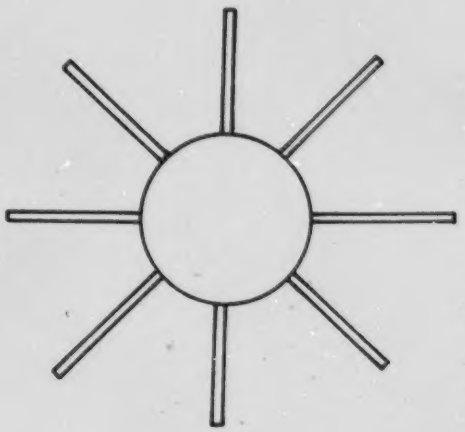
19. **Button Magic**

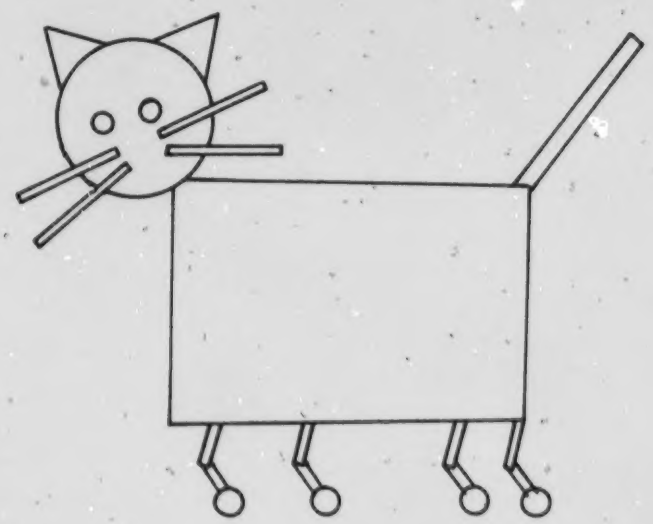
Collect buttons, discs, or similar objects, all the same color, size and shape. Place five buttons on the table in a straight line. Count the buttons with the children. Say the number aloud several times. Ask the children to close their eyes while the teacher removes one button. Ask the children to open their eyes and count the buttons. Tell if there are **"more"** or **"fewer"** buttons than before. Continue the game by increasing and/or decreasing the buttons. Do not change the buttons for a turn to be sure the children are counting and not guessing.

20. **Snack Time**

Set up the number of tables needed for snack. Assign five or six children to a table. Ask one child at each table to count the children as they come to the table for snack. Another child at the table could distribute the napkins, count aloud as he/she places one napkin in front of one child. Do the same for the cups. Later the children will be able to count the number of children at the table, count out the correct number of napkins and cups needed without a one-to-one correspondence. Pass a tray of carrot sticks, crackers, cookies, etc. and ask each child to take **two** at once. Check to see that each child counted and took two pieces. Pass the tray again and ask each child to take one "more."

GEOMETRY





II. GEOMETRY

A. Fingerplays, Poems, Songs

"Hokey Pokey"

You put a circle in, you take a circle out.
You put a circle in and you shake it all about.
You do the Hokey Pokey and you turn yourself around.
That's what it's all about.

(Other verses: substitute other shapes for circle.)
Punch a hole in each shape and tie a piece of elastic thread on each one to make a bracelet.

"If You're Happy and You Know It"

If you're happy and you know it,
Find a square.
If you're happy and you know it,
Find a square.
If you're happy and you know it,
Then your face will surely show it.
If you're happy and you know,
Find a square.

(Other verses: substitute circle, triangle, rectangle, oval for square. Each child has an envelope with the shapes enclosed.)

Did You Ever See a Circle

(Tune "Did you ever see a Lassie")

Did you ever see a circle, a circle, a circle?
Did you ever see a circle?
Please show us one now.
Oh! John, Oh! John, Oh! John, Oh! John
Did you ever see a circle?
Please show us one now.

(Other verses: substitute square, triangle, rectangle, oval for circle.)

"Clap Your Hands"

Clap, Clap, Clap your hands,
Clap your hands till you find a square.

(Repeat until other shapes are found.)
(Other actions: shake your hand, nod your head, stamp your foot.)

"Hello: Everybody. Yes, Indeed:"
(Tune, "Yes, Indeed")

Hello everybody yes indeed, yes indeed, yes indeed.
Hello everybody yes indeed, yes indeed, my darling.

Find a circle, yes indeed, yes indeed, yes indeed.
Find a circle, yes indeed, yes indeed, my darling.

(Other verses: substitute other shapes for circle. Have three dimensional shaped objects or shaped cutouts for children to choose while singing song.)

"Put A Circle In The Air"

(Tune: "Put Your Finger in the Air")

Actions: Each child can have a set of shapes and hold up the appropriate one. Children can trace the shapes in the air with their fingers.

Put a circle in the air, in the air.
Put a circle in the air, in the air.
Put a circle in the air, put a circle in the air,
Put a circle in the air, in the air.

(Other verses: substitute shapes)

I'm A Little Shape

(Tune: I'm A Little Teapot)

I'm a little circle red and round
Watch me while I turn around.
I'm a little square all blue
Have four sides and four corners too.
I'm a little triangle, oh so brown
Always the same even upside-down.
Look at Mr. Rectangle, he's a game
Has four sides but they're not the same.
I'm a little shape, such a clown
Spin around and see me all around.

A Riddle

It will make a jack-o-lantern
Or a big Thanksgiving pie
It's a big round yellow something,
You can guess if you try.

Going Shopping

Come to the store with me.
(Beckon)
Just down the street.
(Point)
We don't need a car,
(street car)
We can go on our feet.
(tap feet in places)
I have to buy cherries,
(small circles with fingers)
And apples and steak,
(big circle for apple, bigger for steak)
Bread and bananas
(long shapes for both)
And Strawberry cake!
(rub tummy, smack lips)

"Bingo"

There was a child who had a shape
and, circle was it's name O
Circle, circle, circle, O
Circle, circle, circle, O
Circle, circle, circle, O
and, circle was its name — O!

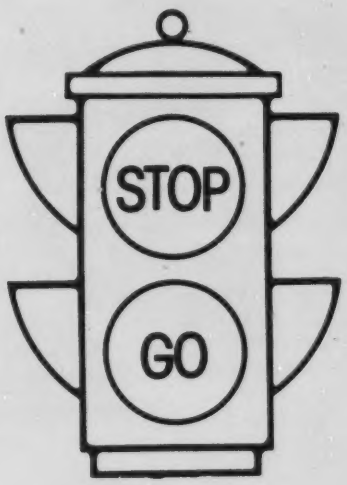
(Other verses: substitute other shapes for circle. Child chooses shape and stands during song.)

One Little Circle

One little circle went out to play
All on a happy summer day.
It had such enormous fun,
It called for another circle to come.

Two little circles went out to play
All on a happy summer day.
They had such enormous fun,
They called for another circle to come.

(Continue until all children are marching around room. Each child should wear a shape necklace. The necklace is made from yarn threaded through a hole punched into the shape. Substitute other shapes for circle.



Big Round Cookie

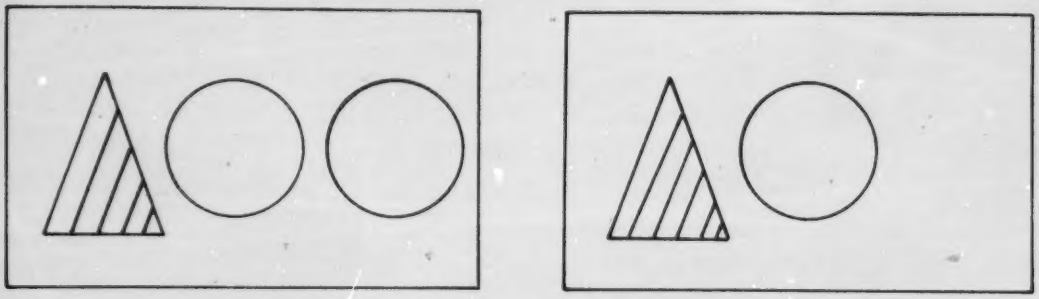
I looked in the cookie jar, and what did I see?
A big round cookie Mother put there for me.
Mother looked in the cookie jar,
But she didn't see
The big round cookie she put there for me.

II. Geometry

B. Learning Activities

1. Arrangements

C[illegible] large circles, squares, triangles, rectangles, etc. from various colors of felt. Arrange on the flannel board to show the different patterns of the shapes. Have the flannel graph on the left below ready for the children to see. Let them arrange an identical graph to the right of the completed one.

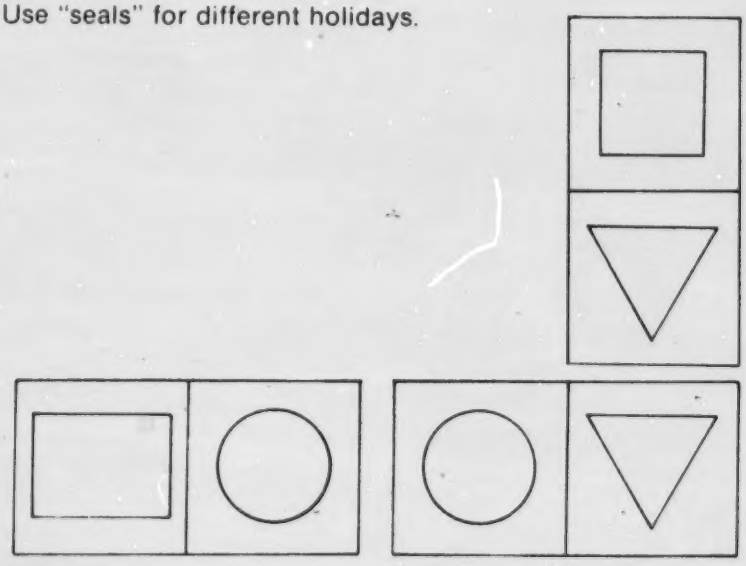


2. Shape Dominoes

Make a set of twenty-eight, which involves seven different shapes, each domino having two shapes. To play the game, place matching shapes in adjacent positions.

These can be made from heavy cardboard with the shapes glued into the cardboard. Cover back and front with clear contact paper.

Variation: Use "seals" for different holidays.



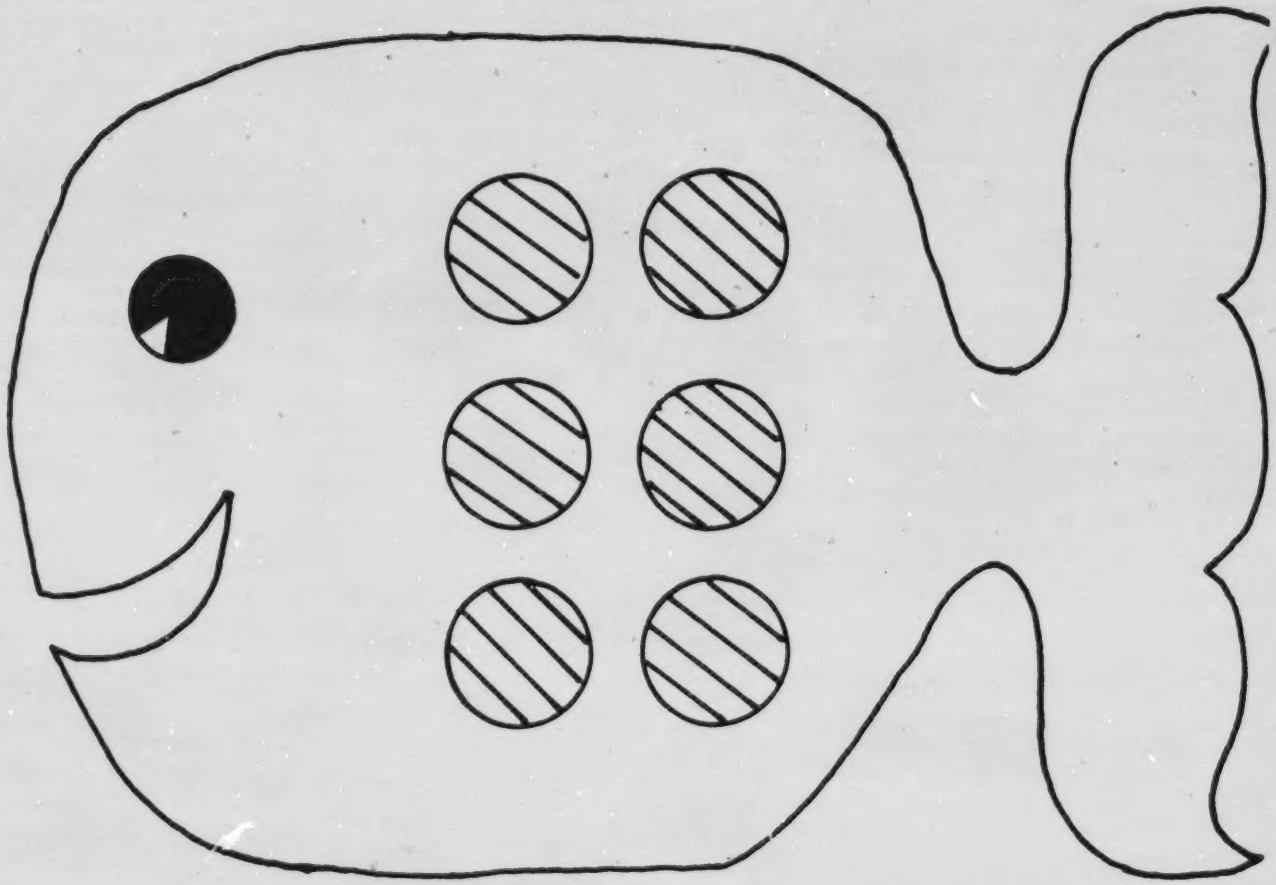
3. **Go Fishing**

Make a magnetic fishing pole by tying one end of a 15" -18" string to a 20" wooden dowel or bamboo pole. Tie the other end of the string to a magnet (magnet should have a hole in the center). Lengthen or shorten the string depending on height of the children.

Cut ten "fish" from construction paper (see pattern). Paste shapes on one side of the "fish." Attach a paper clip to the "fish," leaving about half the paper clip sticking out from the construction paper. (A staple can be put in the fish's mouth.)

Cover the entire "fish" with clear contact paper.

Spread the "fish" on the floor. A hoop may be used to contain the fishing space. Children may fish standing or sitting in a rocking boat. As a "catch" is made, the child is to name the shape, color or number of shapes depending on his/her individual skill. Repeat until each child has had a chance to fish.

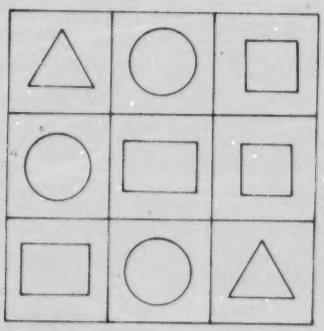


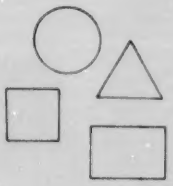
4. **Shape Collage**

Variously shaped pieces of paper are pasted onto a larger background. Smaller matching shapes are placed on the table for the child to discriminate and paste onto the matching background shape.

5. **Lotto**

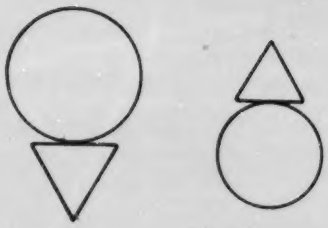
Make lotto cards of heavy tagboard with each grid containing a different shape. Cut loose cardboard shapes to match. Have the children place matching shapes on the lotto card and name the shapes as they select them. Cover shapes and cards with clear contact paper.





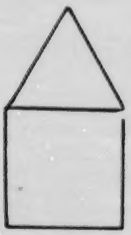
6. **Shape Designs**

Make designs witn cut out shapes of different sizes. Include the use of string in these designs. Encourage the children to use such terms as "larger than," "the same as," "smallest," etc.



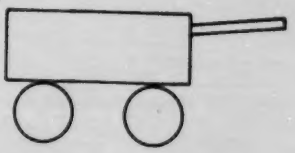
ice cream cone

clown



house

kite



wagon

7. **Pegboard Shapes**

Supply pegboard and pegs to each child. Ask the child to form a shape with the pegs. Have the child name the shape. Older children can form several shapes on one board. Also, older children can completely cover the pegboard and then form shapes by stretching elastic bands around various pegs.

Variation: Hammer 25 nails (1 - 1¼" long) into, but not through, a wooden 3/4" thick 12" square board in a 5 x 5 array. The children will use rubber bands to make shapes. The form board can also be made with golf tees glued into a pegboard.

8. **Yarn Pictures**

Each child is given a cardboard and different lengths and colors of yarn. The child is asked to string the yarn into shapes or designs using shapes.

9. **Paper Shapes**

The teacher cuts the following from red, yellow and blue construction paper: 2 large circles of each color, 2 medium-sized circles of each color, 2 small circles of each color. Do the same for other shapes. Ask the children to put together the shapes they think are alike. Think of several ways the shapes could be used.

10. **Shape Bingo**

Make bingo cards from tagboard. Make shapes with colored construction paper. Paste the shapes to the cards and cover with clear contact paper or laminate. The individual call cards are made in the same manner. The game is played just like regular bingo. The children should take turns calling so they can practice the names of the shapes. This may be made from manilla folders for easy storage.

Variation: Using a spinner card, the child can play alone. Use large buttons, or disks for covers.

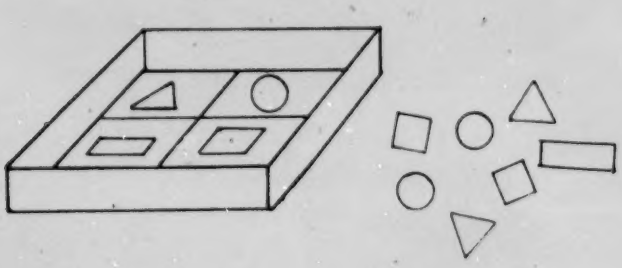
11. **Match Game Boards**

Section the game board by gluing library pockets to the board. The game board may be poster board or file folders for easy storage. Cut a small card to fit inside the packet and stick out for easy removal. Glue duplicate shapes on the game board and small card. Example: pick velvet circle, orange burlap triangle, purple fur square. The child places the matching cards in the identical pocket.

12. **Sort Box**

Using one box divided into four equal compartments or four separate boxes, label the compartments or boxes with the four basic shapes: Circle, square, triangle, rectangle. Have a large assortment of the four shapes. Mix all shapes together on a table. Have the child sort forms into the appropriately labeled compartments, naming the forms as he/she sorts them.

Variation: Use different size shapes. Have the child classify the sizes.



13. **Find a Shape**

Ask one child to select a shape from a container of shape pieces. The class then looks around the room and finds shapes similar to the one being held by the child. They may compare a rectangle with a door, window, picture; and a circle with wheels, doornobs, paper cup, waste basket. Emphasize the contrast in sizes of their examples — that is, differences in size between the door and a block, or a window and a sheet of paper.

14. **Feely Meely Box**

Place a variety of shaped objects (small wheel, button, domino, small ball, blocks, cardboard shapes, small boxes, marble, etc.) in a closed box that has a hole large enough for a child's hand cut on one side. Children reach through the hole, feel the objects, and describe the shape. The teacher should ask questions about the shape of the objects (three or four corners, could it roll, etc.).

Variation: "Sock Boxes" — Stuff 4 quart-sized plastic containers into 4 socks. Place one shape in each sock box (circle, square, triangle, rectangle). The child puts his/her hand into the sock box and feels the shape inside. The child sorts through several pictures that match the shapes in the boxes and finds the ones that matches what shape was felt. The child places the picture on top of the sock box and repeats this procedure for each box.

15. **A Shape Walk**

Take a few children for a walk to look for different geometric figures and solids. While walking ask the children to notice and repeat the names of the shapes they see. The teacher will need to help distinguish shapes and relate them to the two and three dimensional shapes discussed in school.

16. **Templates**

Make or purchase templates for the basic shapes. To make, cut figure out of the centers of cardboard with a mat knife. Have the templates available in the math center along with pencils or crayons and paper. The teacher would provide verbal labels for the shapes children trace. Older children can be encouraged to cut out the shape.

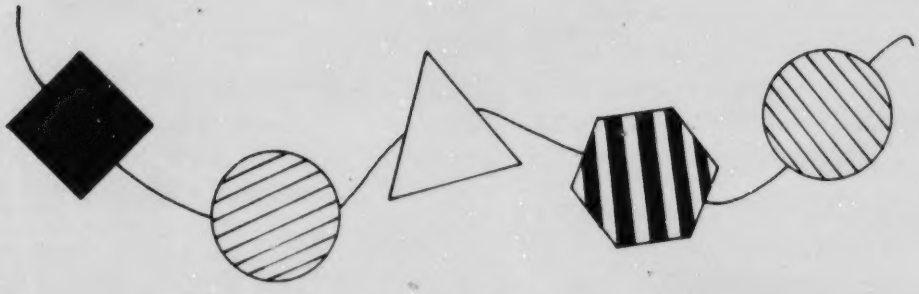
17. **Shape Board**

Have at least two cutouts of each of the four basic shapes (circle, triangle, square, rectangle) beside a flannel board. Place a circle on the flannel board. Ask a child to find a shape to match the one on the board. The child places the correct shape on the flannel board next to the circle. Repeat the same procedure with each shape. This should be left out in the room for children to use daily.

18. **Stringing Beads**

A tray of beads and string is placed on the table. The teacher may ask the child to string only one shape or use lacing pattern cards, and ask the child to duplicate the bead patterns naming the shape as they are laced. If the pattern array is confusing, uncover one bead at a time until the child can understand the full pattern. This is an excellent exercise for counting, color naming, eye-hand coordination, as well as shape recognition tasks.

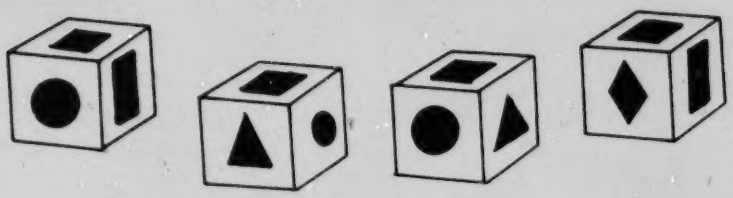
Variation: Use felt shapes on a flannel board. Put a string of yarn on the flannel board before beginning the game. Apply felt shapes in an easy sequence of altering shapes. Ask the child to duplicate or place the next logical bead in the sequence.



19. **Shape Cubes**

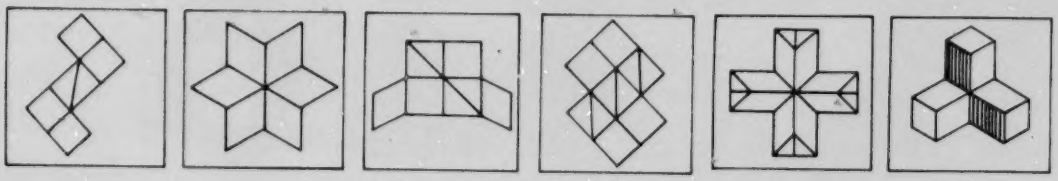
Collect four clear plastic cubes designed to hold photographs. Insert a variety of cardboard shapes in the cube. The child is to manipulate each cube until all identical shapes are turned up in the same direction.

Variation: Use numbers, numerals, animals, etc.



20. **Parquetry Block Designs**

Make design cards for use with the wooden parquetry blocks. The designs should begin at an easy level of difficulty and progress toward a more difficult level. The teacher will want to structure the designs to meet the needs of the child. The child is asked to select the blocks and copy the design by placing the blocks beside or below the card. Ask the child to name the shapes as the design is made.



21. **Shape Twister**

Using a 3' x 5' piece of heavy upholstery vinyl, trace geometric shapes with tape or colored marker. Using a spinner card (see activity #10) have one child spin and call the name of the shape the other child is to stand on or touch with hand. Older children may be instructed to place right hand on circle, left foot on triangle, etc.

Variation: Mark geometric shapes on the floor with tape and have children reproduce those shapes with their bodies by lying on top of them. These need to be large patterns.

22. **Sand Shapes**

Have empty containers of various shapes and sizes for children to use with wet sand in the sand table or tub. The child is to pack the containers with the wet sand and then dump the contents out. The wet sand takes the shape of the container. Ask the children to name the shapes. Example: plastic sandwich container — square; small plastic bowl — circle; plastic pie container — triangle; small plastic glass — circle; etc.

23. **Shape Lunch**

Cut sandwiches into geometric shapes. Slice carrots into rectangles and/or circles. Serve cookies for dessert. Identify the shapes. Have the children bite their sandwiches or cookies into other shapes and name them. Example: rectangle into a square; square into a circle, etc.

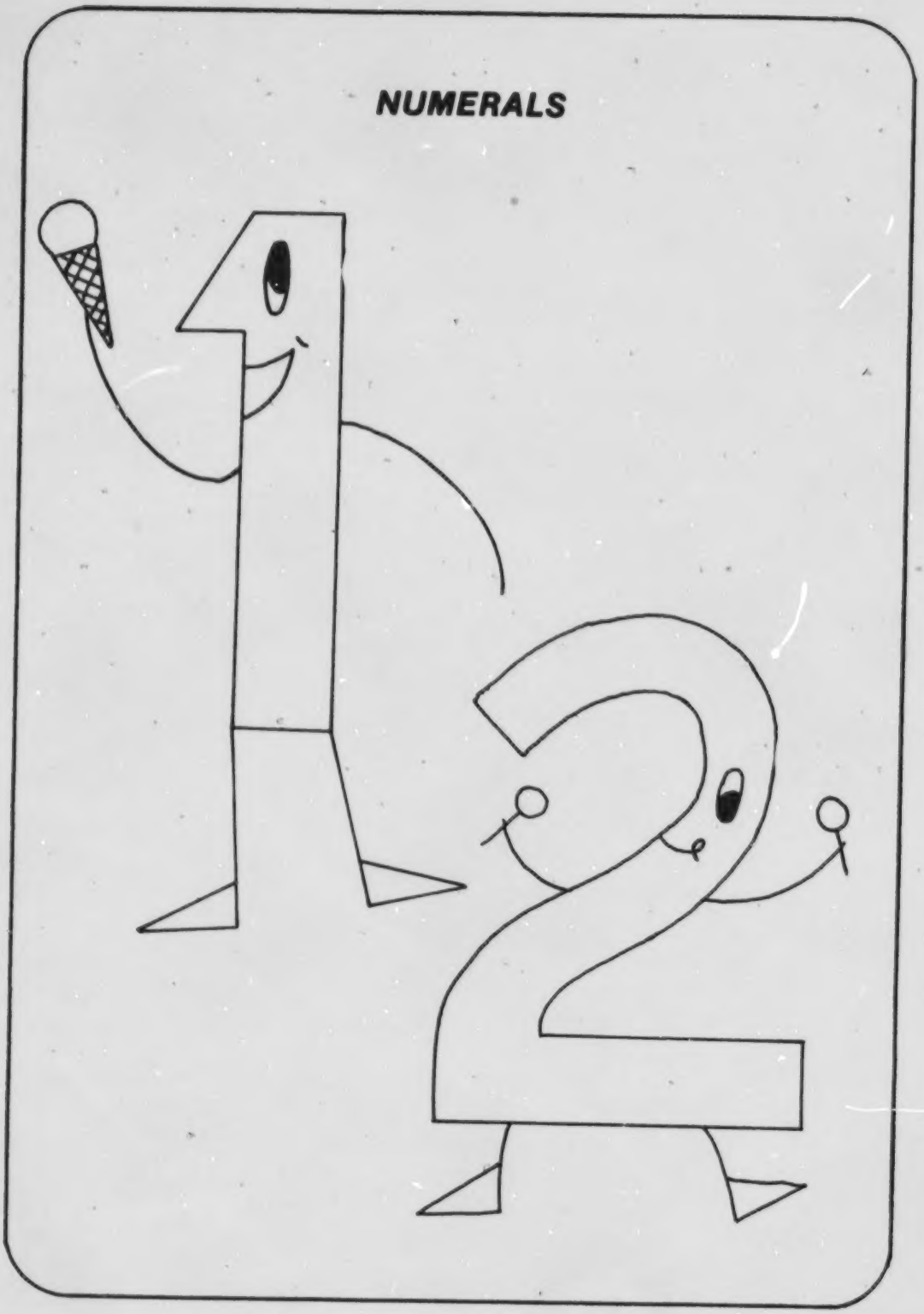
24. **Transition Game**

Use shapes to distribute to children at "transition" time. The teacher all children with squares to go to the water table or lunch, etc.

Variation: A child may be asked to find a shape in the classroom, then proceed to another area.

25. **The Feely Board**

Textured shapes made from carpet, sandpaper, fabric, etc. are glued to a plain poster board. An identical set of shapes are glued to 3" x 5" pieces of heavy cardboard. The child is blindfolded and asked to match each card to its mate on the board by feeling the textures. The child should be encouraged to name the shape as it is matched.


NUMERALS

III. NUMERALS

A. Fingerplays, Songs, Poems

Numeral

Numeral one stands straight and tall,
It doesn't bend its back at all,
Numeral two bows to say, "How do you do today?"
Numeral three is as crooked as can be.
Numeral four keeps its feet on the floor,
Numeral five has a cave in which to hide.
Numeral six plays such funny tricks.
Numeral seven reaches almost up to heaven.
Numeral eight looks like a double gate.
Numeral nine holds its head up all the time.
Numeral ten—I guess I'll just begin again.

All Around The Numeral
(Tune, "Pop! Goes the Weasel")

All around the numeral 1
(numeral in middle of circle)
The monkey chased the weasel,
("monkey" in circle, "weasel" outside)
The monkey stopped to pick up the 1
(child picks up numeral)
Pop! Goes the weasel.
("Weasel" jumps into circle and chases monkey back to correct place in circle.)

(Substitute other numerals for 1)

"As I Was Walking"
(Tune, "Rig-A-Jig-Jig")

As I was walking down the street,
down the street, down the street,
A little (two) I chanced to meet,
Hi-ho, hi-ho, hi-ho!

Rig-a-jig-jig and away we go,
Away we go, away we go.
Rig-a-jig-jig and away we go,
Hi-ho, hi-ho, hi-ho!

(Older children can form circle and play a game. Use numeral cards to substitute other numerals).

"Numeral Song"
(Tune: Mulberry Bush)

Around we go and 'round again
Around we go and 'round again
Around we go and 'round again
To make a zero (0)

Start at the top and move straight down
Start at the top and move straight down
Start at the top and move straight down
To make the numeral one (1)

Half around and straight across
Half around and straight across
Half around and straight across
To make the numeral two (2)

Half around and half again
Half around and half again
Half around and half again
To make the numeral three (3)

Down, across and down again
Down, across and down again
Down, across and down again
To make the numeral four (4)

Down, around and hat on top
Down, around and hat on top
Down, around and hat on top
To make the numeral five (5)

Down we go and all around
Down we go and all around
Down we go and all around
To make the numeral six (6)

Across we go and then straight down
Across we go and then straight down
Across we go and then straight down
To make the numeral seven (7)

Around we go and round again
Around we go and round again
Around we go and round again
To make the numeral eight (8)

All around and then straight down
All around and then straight down
All around and then straight down
To make the numeral nine (9)

Make a one and then a ball,
Make a one and then a ball,
Make a one and then a ball,
To make a numeral ten (10).

"Do You Know?"
(Tune, "Muffin Man")

Oh, do you know the numeral one, the numeral one, the numeral one.
Oh, do you know the numeral one, it looks just like this.
(Hold up a card with one printed on it.)
Oh, yes we know the numeral one, the numeral one, the numeral one.
Oh, yes we know the numeral one, it looks just like this.

(Other verses: substitute 2, 3, 4, 5, etc.)

B. **Learning Experiences**

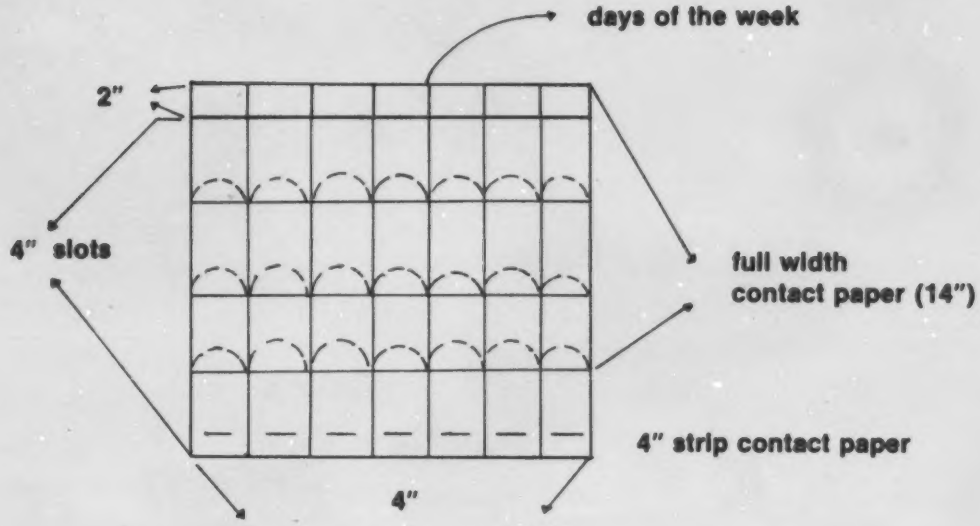
1. **Sandpaper Numerals**

   Cut numerals out of sandpaper and glue them with rubber cement onto 4" x 5" cardboard squares. Encourage children to feel along the outline of the numerals. Ask the children to name the numerals.

   Variation: Indoor-outdoor carpet samples or "velvet" contact paper may be used instead of sandpaper. This may be done blindfolded.

2. **Calendar**

   Make a calendar from a 18" x 28" piece of poster board. Measure as diagramed.



The days of the week should not be abbreviated. They are written in the 2" area. Cover the entire board with clear contact paper. Use a full width (14" x 28") across the board and add 4" x 28" strip at the bottom. Using an Xacto® knife, cut the slots as shown in the diagram. Be sure to cut slits in the bottom row and not semicircles. To make the calendar numbers, cut thirty-one 3 1/2" x 3 1/2" squares. Write the numerals on one side, and cover the other side with pictures of flowers, hearts, turkeys, christmas trees, pumpkins, etc. Make a different set for all twelve months of the year. Decorative seals and gift-wrapping paper are excellent sources for ideas. The numeral squares are placed in the slots to form the calendar. They can also be used for matching games and numeral sequencing activities.

3. **Leap-Frog**

Make flannel "stones" or lily pads. Mark the numerals on the "stones." Set up the stones in a flannel board "river" with the stones placed out of numerical order. Let a child "leap" like a frog from one to another. A selector may be used to direct the frog to leap to a specific next numeral. A numeral drawn from a box will do.

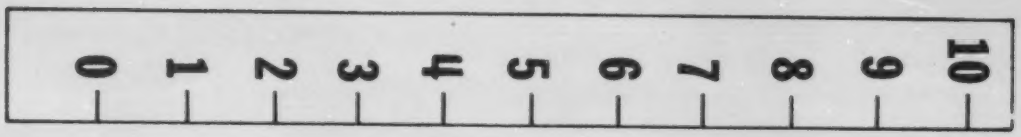
Variation: Play the same game on the floor, marking stepping stones at reasonable distances apart. The children step from one to another in proper sequence "without getting their feet wet." Make the stones from heavy upholstery vinyl or contact heavy cardboard.

4. **Numeral Twister**

On a piece of heavy vinyl, draw the numerals 0-10. The vinyl should be 3' x 5'. Using a spinner card, have one child spin and call the name of the numeral; the other child is to stand on or touch with the hand. Older children may be instructed to "place your right foot on the numeral 7, elbow, knee, etc."

5. **Numeral Line**

Measure and mark off the numerals 0 to 10 on heavy oilcloth 1' wide and 11' long. This can be used as steps for the children to walk from one numeral to another. Always have the child begin on 0. This walk-on device allows the child to "feel" the increase of forward movement as he/she recites the numeral. Tape to the floor.

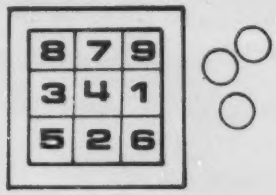


6. **Concentration Game**

Use twenty 3" x 5" cards and write one numeral on each card so there are two cards for every numeral from 0 to 9. All the cards are placed face down. Two or three children take turns turning over **two** cards at a time. If the cards are identical, the child keeps the pair. If they are not identical, the child returns them face down. The game continues until all pairs have been picked up. Younger children may simply match the identical numerals by looking at all the cards.

7. **Numeral Bingo**

Make numeral bingo cards from tagboard. These may be prepared in sets of six, differentiated by color of mounting, so the children may play in separate groups. Use a spinner card or have one child select a numeral to be called out. Those having the numeral on their cards cover it. The covers may be buttons, chips, small inch-square blocks, etc. Cover the card with clear contact paper to preserve them.

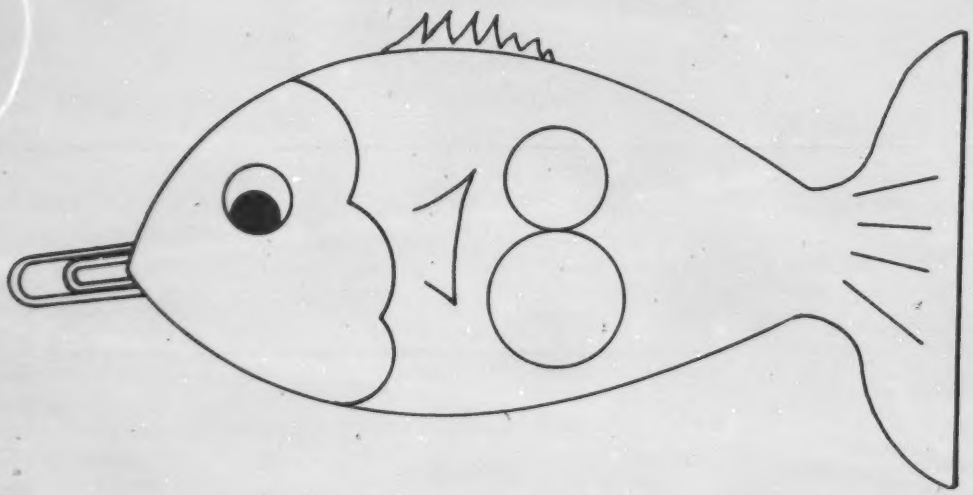


8. **Go Fishing**

Make a magnetic fishing pole by tying one end of a 15" - 18" string to a 20" wooden dowel or bamboo pole. Tie the other end of the string to a magnet (magnet should have a hole in the center). Lengthen or shorten the string depending on height of the children.

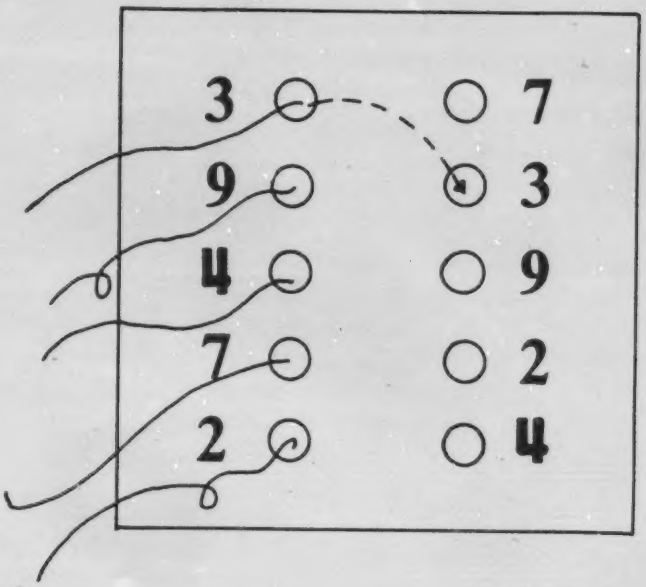
Cut ten "fish" from construction paper (see pattern). Paste numerals on one side of the "fish." Attach a paper clip to the "fish," leaving about half the paper clip sticking out from the construction paper. (A staple can be put in the fish's mouth.) Cover the entire "fish" with clear contact paper.

Spread the "fish" on the floor. A hoop may be used to contain the fishing space. Children may fish standing or sitting in a rocking boat. As a "catch" is made, the child is to name the numeral. Repeat until each child has had a chance to fish.



9. **Lacing Board**

Make the matching boards from heavy poster board. Write corresponding numerals on each side of the chart but in different sequence. Cover with clear contact paper. Punch holes next to the numerals as shown in the diagram. String a shoelace through and knot in the back on the left side of the board only. The child matches the numerals by selecting a numeral string, finding the corresponding numeral across the board and pushing the shoestring through the correct hole.



10. **Train Ride**

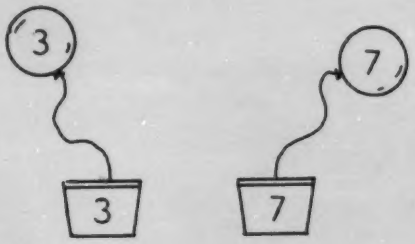
Construct a "train" out of large building blocks or chairs, to form seats for "passengers." Make "tickets" of cards with the numerals 0-10 written on them. The number of cards needed will depend on the size of the group playing the game. The "conductor" calls out a numeral, and the child holding that "ticket" may find a seat on the "train." After a simulated run, the conductor again calls out a numeral, and the child holding the numeral called gets off the train. Another child could be assigned to take the ticket at that time.

11. **Show Me**

Cut numeral cards 3" x 4" from heavy poster board. Mark **one** of the numerals 0 through 9 on each card. Give each child playing the game a complete set of cards. Ask the children to hold up the correct numeral card when the oral name is given. It is easy to check the entire group this way, and each child is involved in the activity.

12. **Hot Air Balloons**

Cut eleven circles from colored construction paper. Write the numerals 0 to 10, one number on each circle. Tape strings to the circles. Place these on a flannel board on bulletin board. Have 11 baskets placed across the bottom of the board with the numerals 0 to 10 written on them as on the balloons. Ask a child to select a basket and match it to the identical balloon. Place the basket below the balloon to look like a hot air balloon.



Variation: Have the balloons on the board as before. Ask children to come up and select a specific balloon number. Example: "Joey, you may take balloon number eight." This is a good transition activity. Be sure to have enough (0 to 10) balloons for the entire class.

13. **Numeral Party**

Make cardboard numeral cards and string yarn through two holes punched in the top of the card. The yarn needs to be long enough for children to place the cards around their necks. Each child receives a numeral and keeps it a secret by turning the card over. He/she comes to the "party" and turns his/her numeral over for all to see. He/she asks, "Who am I?" The children at the party say, "Come in, Mr. Eight!" This is a good transition activity for getting into a group. Or, use it for removal by saying, "Good Bye, Mr. One!"

14. **Numeral Sequence**

Cut corrugated cardboard into a 8 1/2" x 11" rectangle. Write numbers in sequence (1-5) on one side of the corrugated cardboard. Flip over and glue a picture on back. The picture should be large with simple lines. Example: a dog, house, clown face, etc. Cover both sides with clear contact paper. The cardboard is then cut into five rectangular segments. The child arranges the numeral segments in the correct sequence inside a box used for 8 1/2" x 11" stationary paper. Once completing the sequence activity, the child flips the box over. if the picture puzzle fits on the backs, the child knows the numerals are in correct order.

15. **Match Me**

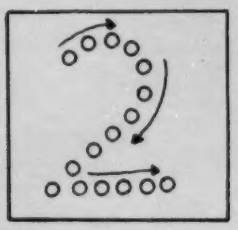
Make sets of numeral cards for the numerals 0 through 9, with five cards in each set. Arrange the cards so that four cards have the same numeral on them and the fifth cards have a different, but similar numeral. Example: four cards have the numeral "6" and the other card a "9". Ask the child to select the one that is different. Say the numeral name orally as it is selected. Explain why the fifth card is different.

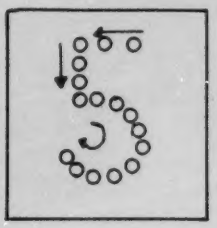
16. **Numeral Chart**

Write the numerals 1 through 5 on a large chart. The children say the numeral as the teacher points to it on the chart. Point to the numerals in correct sequence. Repeat this several times. After the children have "counted" in this way for several days, the teacher points to the numerals out of sequence. Once the children recognize these numeral symbols in any order, add six through ten. Use this activity only **after** the children have had experience with counting shapes, objects, etc.

17. **Dot Cards**

Make a set of cards showing the numerals in dots. Have a set of 0 through 9 for each child. They may be placed in envelopes with the child's name on it. Use arrows to show where to begin forming the numerals. Cover with contact paper. These may be used for finger tracing or use vis-a-vis® pens and have the child connect the dots following the arrows. The pen marks are removed with a damp paper towel. Younger children may simply recognize the dotted numeral and respond by holding up the correct card as the teacher pronounces it orally.





Variation: Gummed stars may be used instead of dots. It may be necessary for the children to see the written numeral on a chalkboard.

18. **Bake-Off**

Use recipe below.

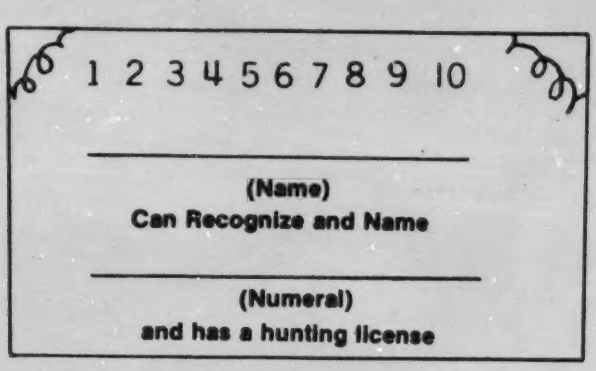
1 1/2 cups water
1 package dry yeast (dissolved)
4 cups flour
1 tablespoon sugar
1 teaspoon salt
1 egg — beaten sligthly with
1 tablespoon water
Coarse grained salt (Kosher salt)

With a large spoon work flour mixture (flour - sugar - salt) into yeast mixture (yeast - water) in large bowl. When about 3 cups flour mixture has been worked in, begin to knead on table top, while working in remaining flour mix. Divide dough into 18-24 parts. Shape dough into numerals and place on greased pan. "Paint" with egg - water mixture and sprinkle with salt. Bake 25 minutes at 425° or until golden brown. These taste like pretzels.

Variation: Younger children can use play dough or dough already mixed. Can use sugar cookie recipe.

19. **Numeral Hunt**

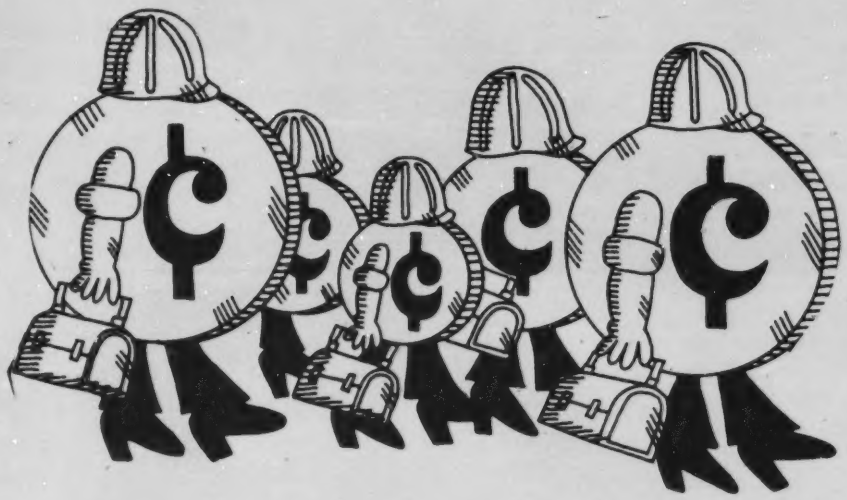
Each child is given a numeral card bearing a numeral of 1 through 10. He/she is to go on a numeral hunt in the classroom and find his/her numeral being used. After finding her/his numeral, the child is to quietly stand beside the location. Places the children may locate are: wall clock, calendar, telephone, numbered boxes, games, etc. Before the child may return to the group, he/she is to orally pronounce his/her numeral. At that time she/he is given a numeral hunting license.



20. **Numeral Painting**

Using a numeral spinner card, the child determines what numeral to paint. The child spins the pointer and then proceeds to paint the numeral designated on the card. Older children can be encouraged to paint the numerals in correct sequence. Younger children can use sheets of paper cut into the numeral shape and attached to the easel. If a spinner card is not available, the teacher may write the "numeral-of-the day" on the chalkboard and ask the children to paint in at the easel.

MONEY



IV. MONEY

A. Fingerplays, Songs

"I Gave My Friend"

(Sung to tune of, "This is The Way We Wash Our Clothes")

I gave my friend one dollar,
One dollar,
One dollar.
I gave my friend one dollar,
One dollar.

(Substitute coins for "dollar." Example: "penny, "nickel," etc.)

"I Have Some Money"

(Sung to tune of, "Hurry on Down to Hardee's")

I have some money,
(Point to self)
And it's a dollar.
(Children and teacher wave a dollar bill)
I have some money,
(Point to self)
And it's a dollar.
(Wave a dollar bill)
I can buy a book,
(Pretend to read a book)
Or some food to cook.
(Rub stomach as if your were hungry)
I can buy a ball,
(Make circle with hands)
Or a picture for my wall
(Point to wall)
I have some money,
(Point to self)
And it's a dollar.
(Wave dollar bill)

(Substitute coin value for dollar. Example: "penny," "nickel," etc.)

"In Our Bank"

(Sung to tune of, "Mary Had A Little Lamb")

(Teacher and children sing as the child named in the song puts a coin in the bank. Every child puts one coin in bank.)

Mary *(child's name)* had a penny, a penny, a penny;
Mary had a penny,
And she put it in her bank.

We have money *(or pennies)* in our bank, money in our bank,
Money in our bank.
We have money in our bank,
Money in our bank.

"A Penny Is One Cent"

(Sung to tune of, "The Farmer in the Dell")

A penny is one cent,
A penny is one cent.
Oh yes, I know,
A penny is one cent.

(Substitute: "A nickel is five cents," etc.)

"Save Your Money"

Save your nickels,
Save your nickels,
In a bank,
In a bank.

Save your money,
Save your money.
In a bank,
In a bank.

"What Can You Buy"

(Sung to tune of "Mulberry Bush")

What can you buy with dime, a dime, a dime?
(Teacher holds up a dime)
What can you buy with a dime,
You can buy a _____.

(Teacher points to a child. Child fills in blank.)

"Money Song"

(Tune of "Are You Sleeping")

Teacher holds up quarter and sings song. Every child has a coin, either penny, nickel, dime, or quarter. Teacher then sings a song again changing words to a different coin.

(Child fills in blank by naming the coin he/she is holding.)

I have a quarter
I have a quarter;
Yes I do, Yes I do.

I have a quarter
I have a quarter;
Yes I do, Yes I do.
You have a _____
Yes you do,
Yes you do.

Folk Rhyme

I asked my mother for fifty cents
To see the elephant jump the fence.
He jumped so high
He reached the sky
And never came back
Till the fourth of July.

(Can be used with "Miss Mary Mack")

B. **Learning Activities**

1. **Matching Board**

Mark 8 1/2" x 11" cardboard sheets as shown below. Randomly glue real coins in the two columns. Cover with clear contact paper. Place these on the table with a vis-a-vis® pen for the child to use. These markings will wipe off with a damp towel. The child is to recognize the coins in the left column and draw a line to identical coin in the right column.

2. **What's Missing?**

In a small group, display a dollar bill, penny, dime, quarter and nickel. Give children time to examine and manipulate each piece of money. The teacher points to each piece and says the name of the money. Repeat this until the children at the table are able to say the names. Ask the children to close their eyes. The teacher removes one piece of the money, and asks the children to open their eyes. Ask one child to tell the name of the missing money. Repeat several times and allow every child in the group to participate. Older children may be able to direct this activity.

3. **Money Board**

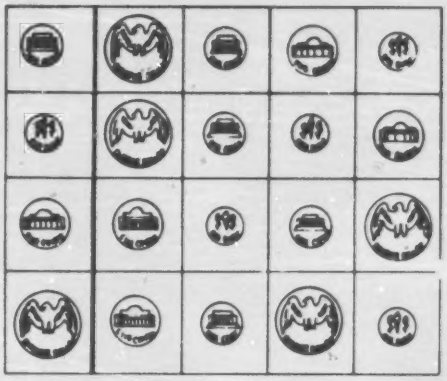
Use rubber cement to randomly attach coins and bills to a poster board. Cover the entire board with clear contact paper. Place the poster on a peg board room divider or low bulletin board. In "together" time, discuss the various coins and bills. Name each piece of money. Leave on display for the children to view. Older children can play a game with the board. Place the board on the floor and ask the child to drop a rubber jar seal on the poster. Name the money nearest the seal.

4. **Cue Sheet**

A cue sheet is used to give the child experience in identifying identical shapes, symbols, figures, etc. The symbol at the top of the page is the "cue." The task is to find all the identical symbols. Cue sheets have levels of difficulty. Teach the children to "mark" by the demonstration method using "1" or "X". Design cue sheets as shown below. Cover in clear contact paper. Give the children a sheet and ask them to mark the money that is the same as the money in the box. Use real money if possible.

Level I

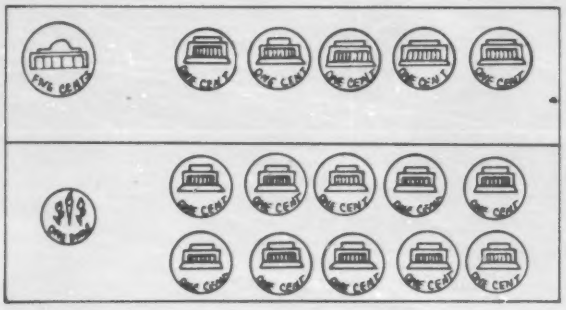
Level II



Level III

5. **Same Game**

Make a money chart showing the exchange of each coin in terms of pennies. (See diagram.) Cover the chart with clear contact paper. Discuss in small groups. During activity time, work with one child to help count the number of pennies that equal a nickel or dime. (Young children may not be ready for the quarter.) Use real money. Suggestion: Glue the coin to a manilla file folder for easy storage.



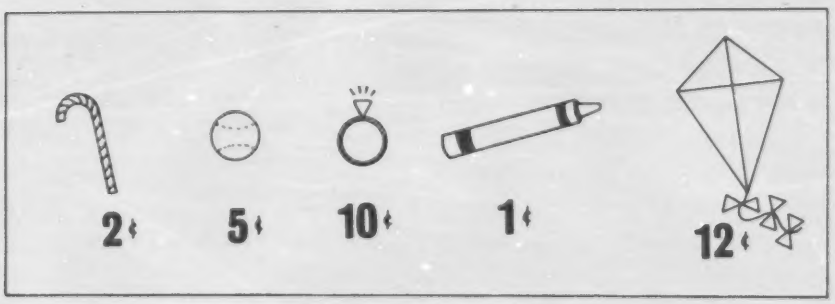
6. **How Many?**

Divide a 9" x 12" file folder as shown below. Collect 25 pennies and store in a baby food jar, plastic container, change purse, etc. Give the child the folder and pennies. Ask the child to count the number of pennies called for and place on the chart. Discuss "more," "less," and "fewer."

4	1
2	3
6	5

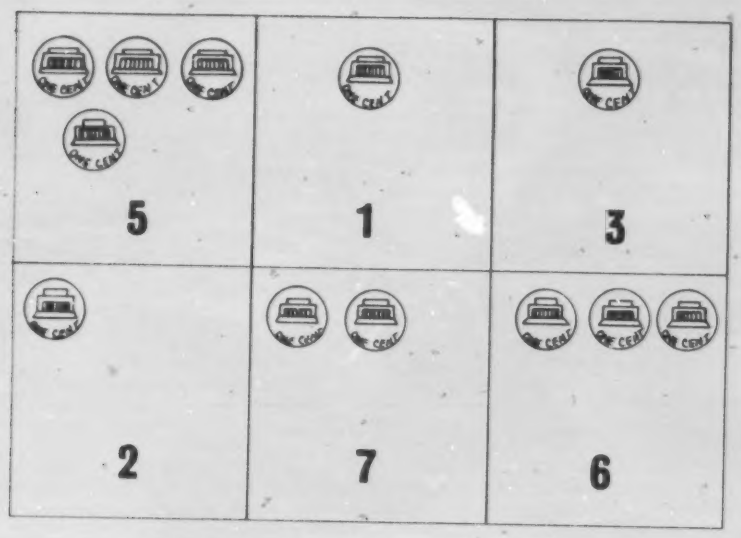
7. **For Sale**

On a poster board, glue pictures of items that are "for sale." Place a number under each picture indicating the price tag. Actual small price tags might be used. These prices should be no higher than the number the children can count or the numeral they can read. Cover the entire poster with clear contact paper. Pictures are available in old workbooks, catalogs, etc. Collect enough pennies to cover the total price of the board. Give the child the board and the pennies. Ask the child to buy the items by placing the correct number of pennies under each picture.



8. **Bank Loan**

Divide a 9" x 12" file folder as diagramed below. Glue the number of pennies shown in the diagram onto the folder. Cover with clear contact paper. Collect the correct number of pennies (9) and store in a "bank." This container could have the word "bank" written on it. Place the folder on the table along with the pennies. Ask the child to count the number of pennies on the folder. Then read the numeral in the block. Borrow from the "bank" the correct number of pennies needed to match the numeral. A nickel folder could be made also.



9. **Piggy Banks**

Collect ten baby food jars with lids. Use a screwdriver to cut the money slots in the lids. Use adhesive tape to cover the jagged metal of the slots. Place on the jars, round, peel and stick labels with the numeral sequence of one through ten written on them. Give the child a container of pennies. Ask the child to read the numeral and put that many pennies in the bank. Do this for all ten "banks." Guide the child to use the word "**cents**" when describing how much money each bank contains. Older children could use nickles and pennies to make up the correct "deposit."

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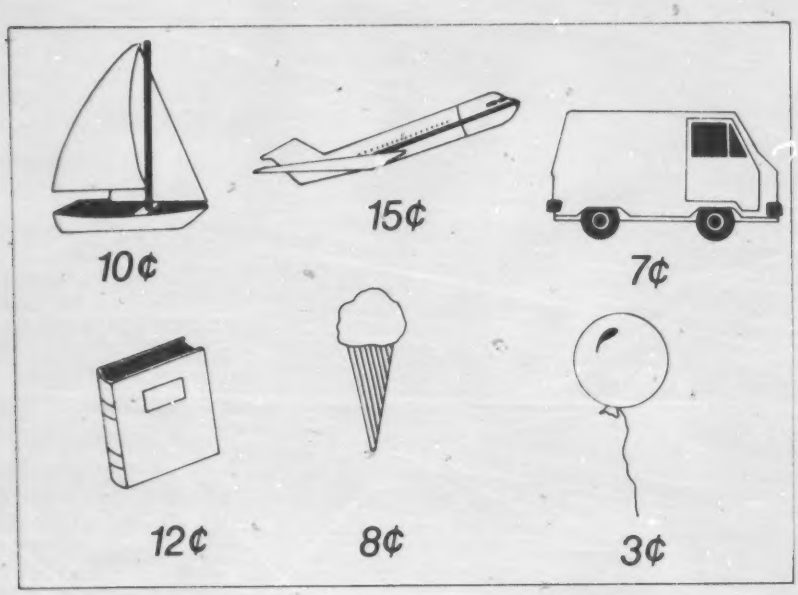
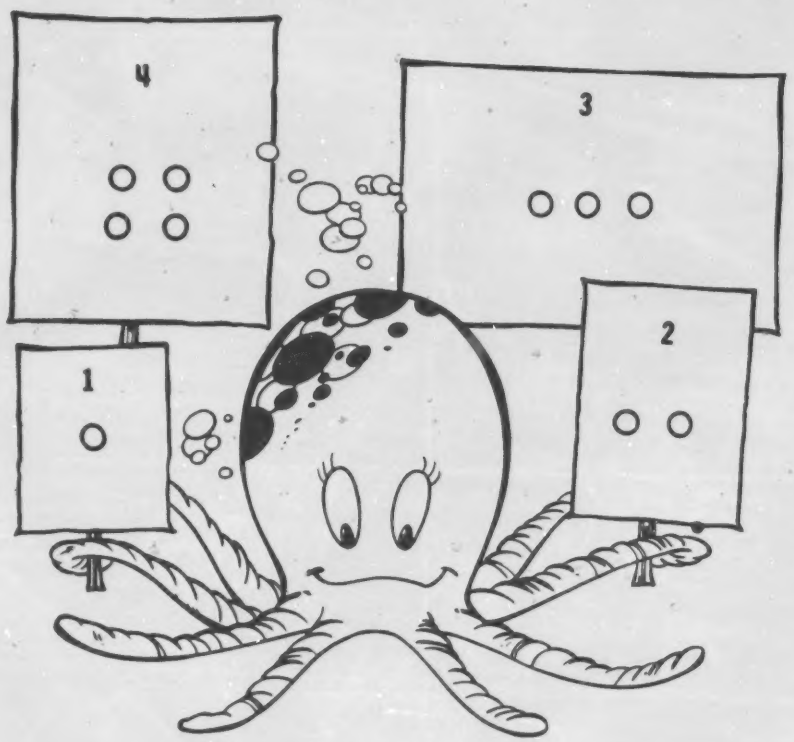
10. **Shopping List**

Make a chart showing pictures and prices of items a child would enjoy purchasing from the store. Give the child the chart and a container of pennies. Ask the child to spend all the money. There should be more pictures than money leading the child to make a decision. The teacher should guide the choices by reminding the child to count his/her pennies and read the numeral "price." "Do you have enough money to buy the book?"



PRE-NUMBER EXPERIENCES



V. PRE-NUMBER EXPERIENCES

A. Fingerplays, Songs, Poems

The Chickens

(Point to fingers on left hand, one for each little chicken.)

Said the first little chicken,
With an odd little squirm,
"I wish I could find
A fat little worm!"

Said the second little chicken
With an odd little shrug,
"I wish I could find
A fat little bug!"

Said the third little chicken,
With a sharp little squeal,
"I wish I could find
Some nice yellow meal!"

Said the fourth little chicken,
With a small sigh of grief,
"I wish I could find
A little green leaf!"

Said the fifth little chicken,
With a faint little moan,
"I wish I could find
A wee gravel stone!"

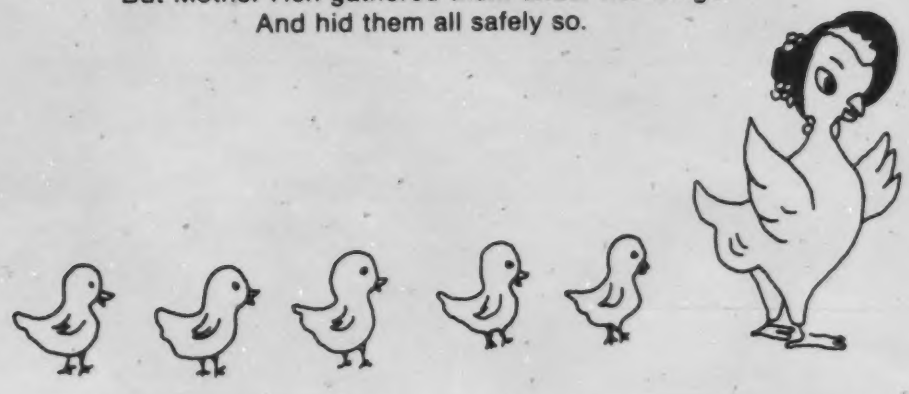
"Now see here,'" said the mother,
From the green garden-patch,
"If you want any breakfast,
Just come here and scratch."

Five Little Fish

Five little fish swimming in a pool,
The **first** one said, "The pool is cool."
The **second** one said, "The pool is deep."
The **third** one said, "I'd like to sleep."
The **fourth** one said, "I'd like to sleep."
The **fifth** one said, "I see a ship."
The fisherman's boat comes,
The line goes splash!
Away the five little fish dash.

Mother Hen and Her Five Little Chicks

The first little chicken chased a bug.
The second little chicken just watched.
The third little chicken slept in the sun.
The fourth little chicken scratched.
The fifth little chicken cried, "PEEP! PEEP! PEEP!"
As a hawk came sweeping low.
But Mother Hen gathered them under her wings
And hid them all safely so.



Five Little Froggies

Here are five little froggies,
The first little froggie broke its toe.
The second little froggie cried out "Oh!"
The third little froggie laughed and was glad.
The fourth little froggie cried and was sad.
The fifth little froggie, so thoughtful and good,
Hopped to the doctor as fast as it could.

High and Low

This is high and this is low.
(hold head high and then low)
Do you see how much I know?
This is narrow, this is wide.
(hold hands a little apart, then wide)
Something else I know beside.
Down is where my feet you see
(point to feet)
Up is where my head should be
(point up)
I'll hold my hands up very high.
(hold up hands)
I'll clap, clap, clap then let them lie.

Owl-oween

Four little owls sat in a tree,
One flew away and then there were three.
Three little owls said "Whoo! Whoo! Whoo!"
One flew away and then there were two.
Two little owls said "This is Owl-Oween!"
"Whoo! Whoo! Whoo! This is Owl-oween!"

Take Away

Ten little bathing suits hanging on a line
take away one, now you have nine.

Nine little lollipops, standing up so straight
take away one, now you have eight.

Eight little bluebirds flying up to heaven,
take one away, now you have seven.

Seven little children playing rhythm sticks,
take away one, now you have six.

Six little bumblebees buzzin' around the hive,
take away one, now you have five.

Five little puppies playing on the floor,
take one away, now you have four.

Four little apples hanging on a tree,
take one away, now you have three.

Three little Indians, each in a canoe,
take one away, now you have two.

Two little swimmers sitting in the sun,
take one away, now you have one.

One little cowboy, shooting a gun,
take him away, now you have none.

This Little Clown

The first little clown is fat and gay,
The second little clown does tricks all day,
The third little clown is strong and tall,
I like the clowns, I like them all.

Three Ponies

Three little ponies who didn't like their hay,
Said to each other "Let's Run Away"
Said the first "I will Canter"
Said the second "I will Trot"
Said the third "I will Run — if it's not too hot"
And they all started off
With three tails in the air,
But they couldn't jump the fence
So they're all still there!

Five Little Squirrels

Five little squirrels sat in a tree.
The first one said, "What do I see?"
The second one said, "A man with a gun."
The third one said, "O, Let's run."
The fourth one said, "Let's hide in the shade."
The fifth one said, "I'm not afraid."
Then bang went the gun!
And how they did run!

Five Little Jack-O-Lanterns

Five little Jack-O-Lanterns sitting on a gate,
The first one said, "My it's getting late,"
The second one said, "There are witches in the air,"
The third one said, "I don't care,"
The fourth one said, "Let's run, let's run!"
The fifth one said, "Isn't Halloween fun?"
Woo-oo-oo! went the wind; out went the light
Away ran the jack-o-lanterns on Halloween night.

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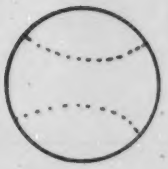
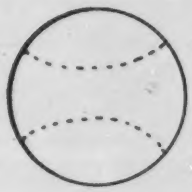
Three Balls

Here's a little ball
(small circle made with thumb and index finger)
And here's a larger ball
(use both thumbs and both index fingers)
And a great big ball I see!
(use both arms)
Shall we count them?
Are you ready?
One, two, three.





Up and Down

Here we go up, up, up.
(children go up on tip toes)
Here we go down, down, down.
(sink down on heels)
Here we go backward
(walk backward)
Here we go forward
(go forward)
Here we go round, round, round.
(turn around)

Right Hand, Left Hand

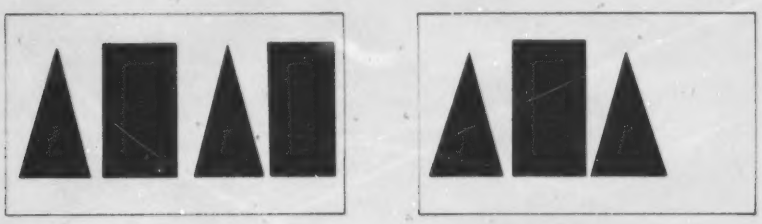
(Each line of this rhyme will tell you what to do with your hands.)

This is my right hand.
I'll raise it up high.
This is my left hand.
I'll touch the sky.
Right hand, left hand,
Roll them around.
Left hand, right hand,
Pound, pound, pound!

B. **Learning Activities**

1. **Set Elements**

Collect dried beans, plastic cars, animals, blocks, shapes. These are called set members or "elements." **A set is a collection or group of things** (people, ideas, objects). Broaden the meaning of term "set" by asking the child to identify a set of books, chairs, dishes, blocks, etc. Have each child reproduce sets using geometric shapes, dried beans, blocks, etc. Glue shapes, pictures, seals, onto a 5" x 7" card. Cover with clear contact paper. Ask the child to complete an identical "set" on a second card.



2. **Creating Sets**

Draw a set container on the floor with chalk or use a hoop, masking tape, etc. Ask three children to stand in the set container. Ask, "How many in this set?" Place chairs within the set container. Ask "How many in this set?" Continue with similar experiences until all children have had a turn in the set container.

3. **One to One**

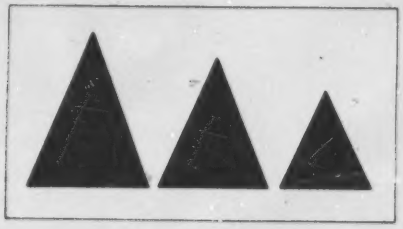
Spray paint 10 frozen juice concentrate cans. (One-half pint milk cartons painted with spray paint may be used.) Cut circles from colored contact paper and adhere on the cans in sequences 1-10. (Round adhesive labels are excellent if available.) Cover with clear contact paper. Spray paint 60 wooden tongue depressors. Ask child to place the necessary number of tongue depressors into each can. This teaches one-to-one correspondence forming sets of objects.

4. **Naming Sets**

Once the child can correctly use the name "set" to refer to groups, place several objects or pictures and ask the child to find the sets. Use several objects which can be grouped into at least three different sets. Example: (1) sort buttons by color, size and shape; (2) animals that live on land, in air, in water.

5. **Comparison**

This activity shows the differences in sizes of objects and teaches the meaning of the comparison words: large, larger, largest, etc. Place different sizes of the same shape on a flannel board. Ask a child to arrange them and tell the differences by using comparative words applicable to them.



6. **Large/Small and Big/Little**

Place the two objects on the table and ask the child to tell which one is which. Example: put 2 buttons in front of the child. One is much larger than the other. Ask the child to pick up the larger button.

Variations: long-short, heavy-light, high-low, etc.

7. **More/Less**

Place two groups of shapes (circles and squares) on a flannel board. Ask the child to point to the two "sets" of shapes and name the shapes. Then, ask the child, "Are there as many circles as squares? Which set has more/less? How many circles/squares?" Ask the child to point, move, remove, etc., the shapes to show the concept is understood.

8. **Big/Little**

Build two or three block towers of widely ranging heights. Ask the child to point to the big, biggest, smallest tower. Change the heights by adding or removing blocks and repeat the directions.

Variation: Use pictures of objects; different size cookies for snack; roll clay balls to show comparisons.

9. **Position**

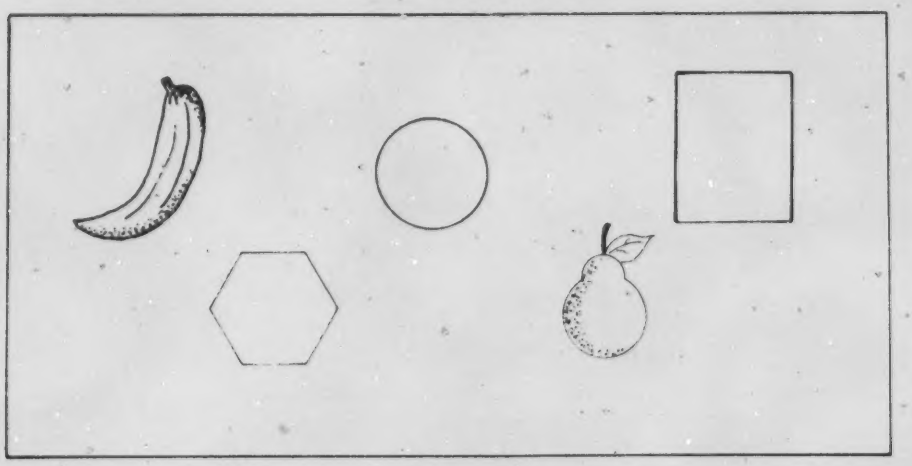
Use a large hollow block, chair, table, etc. Ask the child to stand on/off the block; stand in front of/in back of the chair; stand beside/next to the table/stand between two blocks; etc.

Variation: Using a small plastic container, ask the child to place a chip, cube, etc. **in** the container. Repeat using other position words.

Note: This activity is an excellent transition idea.

10. **Ordering Sets**

To introduce ordering of sets using ideas of more than and fewer than, place on a flannel board two sets that are not equivalent. One set may be felt fruit and the other shapes. Ask the child to pair the different sets together.



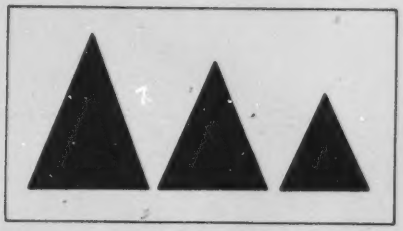
11. **Ordering Patterns**

Make pattern cards using various shapes. These may be colored for use by younger children. Cover with clear contact paper. Ask the child to match the shape pattern using the real shapes. (See diagram.)

Variation: **Ordering Sizes.** Use nesting cups, tin cans, stacking discs, etc., to teach ordering in size. Stress the words small, middle, largest, etc.

12. **Comparison**

To show the difference in sizes of objects and to learn the meaning of the use of comparison words, place different sizes of the same shape on a flannel board. Ask the child to arrange the shapes and explain the difference by using the comparative words, large, small, larger, smaller, largest, smallest, etc.



13. **Ordering Numbers**

Place five yarn "strings" on the flannel board. Give the children a balloon made of felt. Ask the child to place the balloon on the third string, etc. Repeat until all children in the group have a turn.

Variation: Duplicate material showing rows of rabbits, trees, cars, etc. Place on the table with crayons. Ask the child to color the third rabbit green, the first tree yellow, etc.

14. **Sequence**

Place drinking straws of graduated length on the table. The longest would be an uncut straw. Cut 1" off the second, 2" off the third, and so on, making about six straws. Ask the child to arrange the straws in a row from tallest to shortest.

Variation: Tin can, boxes, cups, etc., can be seriated by ordering from smallest to largest by placing them inside one another.

15. **Magic Hat**

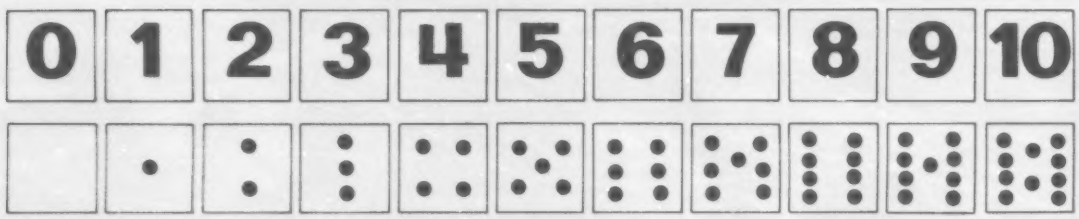
Make a large block magician's top hat from a poster board; or an empty ice cream carton can be covered with black contact paper. Inside the hat, place several cards with gummed seals or pictures of sets one through five. For interest, cut the cards in the shape of rabbits. Ask two children to pull "rabbits" out of the hat and compare the sets. Which has more (fewer) objects or greater (lesser) number?

16. **Feely Bag**

Use a feely bag or box. Place two sizes of cubes, buttons, paper clips, etc., inside the feely bag. Ask the child to remove the largest cube, the smallest button, etc.

17. **Number Match Game**

Prepare 11 flashcards 5" x 7" showing the numerals 0 to 10. Cover with clear contact paper. Prepare a matching set of cards showing quantities of 0 to 10. (See diagram.) These can be made by using gummed stars, seals or round labels. Colored contact paper punches are excellent to use. Cover with clear contact paper. Ask the child to count the number of objects and select the correct numeral card. Match the cards. Older children can actually play "match game" by turning all the cards face down and rolling dice for a number. Turn over one card and match the number to the numeral. If no match, place cards face down and repeat procedure. The object is to match all cards.



18. **Autumn Leaves**

Write the numerals 1 through 5 on colorful paper leaves. Glue the matching set of dots on five other leaves. On the back of each leaf, glue a small piece of sandpaper. Randomly place all 10 leaves on the flannel board. Ask the child to match the numeral to the number set.

19. **Position Tree**

Make a large green tree from felt. Use commercially made orange flannel board circles or cut circles out of orange felt. Birds or red apples can be used. Ask the children to place the oranges, birds, apples, etc., "on," "under," "beside," "below," "above," etc., the tree. Count the objects on the tree, under the tree, and above the tree.

20. **Storytelling**

Draw or purchase sequence cards. Use familiar stories such as the Three Little Pigs, The Three Bears, etc. Ask the child to look at the cards and recall the story. Explain what happened first, second, and third. Or draw cards showing an egg hatching, tree being cut down, a jack in the box, etc. Ask the child to tell a story using the cards. For a check, the numerals 1, 2, 3 may be written on the back of the cards.

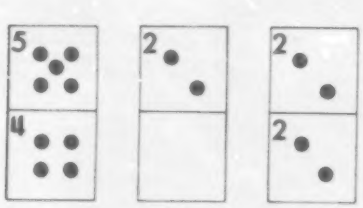
21. **Ice Cream Cones**

Make five cones from brown construction paper. Use pink, white, green, orange, and brown construction paper to make scoops of ice cream. Write the numerals one through five on the cones. On each "scoop" draw sets of one through five. Adhere a small piece of sandpaper onto the cones and scoops for use with the flannel board. Ask the child to name the numeral and select the correct matching set. Place the ice cream "on top" of the cone. This is an excellent transition activity.

22. **All Aboard!**

(This activity is for children who are ready for simple addition activities.)

Draw two large train cars. Write the numerals one through 10 on the cars. Make tickets for the children, each with a combination whose sum is one of the numerals from one to ten. Ask one child to be the conductor. A hat may be used for dramatic play. The conductor calls out, "All aboard for train car nine." Each child who has a combination that makes nine gives the ticket to the conductor. If the ticket is "good," the child is ushered to train car nine. If the ticket is not "good," the child is not allowed to make the trip and returns to await another turn. Repeat until the train is full. Selected dominoes make excellent tickets.



23. **Subsets**

Hand the child a cup of dried white lima beans, popcorn kernels, dried pinto beans, and dried kidney beans. Ask the child to sort the beans by placing the different kinds in four alike piles. Reinforce the concept of set and subset.

Variation: Have all the children with brown shoes stand up. Reinforce the concept of a set is the class members, but a subset is the members of the class with brown shoes.

24. **Clean-up Match Game**

Organize your classroom storage so the children are able to replace materials themselves. For example, cut colored contact paper circles and place inside the Tote trays; one circle for each paste tub. The child can collect the paste tubs, and observe immediately "how many" are missing. The scissor holder can be handled in the same manner; one space for one pair of scissors. Do the same with pencils. Younger children can help replace crayons or markers if you have holders that are wrapped in the matching color contact paper; red container holds all the red crayons, etc.

25. **How Many?**

Place different numbers of objects on a flannel board. Example: three birds and two rabbits. Ask the children to count the birds and then the rabbits. Are there as many birds as rabbits? Which set has more? The set of three is greater than the set of two. Each child should have a turn demonstrating greater than and less than.

MEASUREMENT

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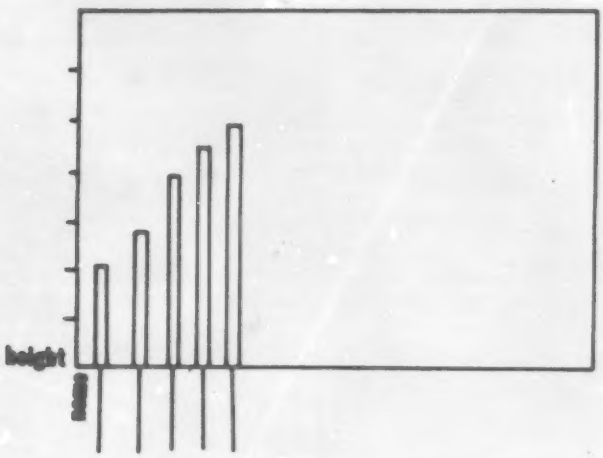
VI MEASUREMENT

Learning Activities

1. **I'm Growing**

   Weigh and measure the height of each child during the first week of school. Recc J this information in a permanent place in the classroom. This could be in the shape of a giraffe chart with the statistics on the neck. A large tree with leaves telling the height and weight of each child could be used effectively. A graph form would be excellent for teaching comparisons. Two separate graphs would be necessary for recording height and weight.



2. **I Weigh**

   Weigh the child and write the numeral on the chalkboard. Next weigh the child holding a hollow block, stool, book, wooden truck, etc. Write the numeral on the chalkboard. Compare weights. Weigh the block, etc., and record that numeral. This can be the beginning of subtraction activities for older children, as well as introducing the words "lighter, heavier."

   Variation: Repeat the exercise using metric measures.

3. **Body Silhouette**

   Using white or brown butcher paper, have the children lie on it and trace around them. The older children will be able to trace around each other. Do this three times a year and compare silhouettes for length.

   Variation: Cut a variety of lengths of paper, and ask the children to select the length they need. Note the choices. Plan activities teaching size for the children who had difficulty making the correct selection.

4. **Olympics**

   Place a large hoop on the ground in the play-yard. Have the child stand "inside" the hoop and throw a plastic disc, ball, etc. Use ski rope knotted at one-meter intervals to measure the distance the ball was thrown. Young children can measure by counting the knots; older children can measure in meters.

5. **Measuring Tubs**

   Pour raw rice or sand into a water play trough or plastic dishpan. Place an aluminum or plastic liquid measure in the trough. Ask the child to fill different sizes and shapes of containers with the rice/sand. Lead the child into a discussion of how many cups were needed to fill each container. Which container is heavier/lighter.

   Variation: Pour one cupful of rice/sand into a container. Place a colored rubber band around the container at the level time. Pour one cupful into a different size container. Place a rubber band as before. Continue using varied shaped containers. Compare the level marks. Discuss how size and shape makes a difference in the level line.

6. **Matching Game**

   Blindfold one child. Place dowel sticks in matched pairs into a box. Ask the blindfolded child to match two dowels that are the same length. Remove the blindfold and ask the child to arrange the sticks in order of "tallest" to "shortest".

7. **Fill'er Up**

   Fill the water play trough with water. The water may be colored with food coloring for easy observation. Use five plastic containers with the numerals 1 through 5 written on one side. The child is to pour the correct number of 1/2 cup measures into the container. Compare the differences. Discuss how high the water level is; which is heavier/lighter.

8. **Pretend Game**

   This activity game is good for large group dramatic play. Have all the children standing and listening for directions. All the children dramatize the following. "You are a little frog. You are growing bigger. You are a short snake. You are a long snake. You are a wide bridge, make it wider." Continue with the activity. Note the children having trouble with the measurement words.

9. **Twins**

   Teach the child how to use a pan balance. Place a container of objects to be measured on the table. Ask the child to experiment to find two objects that weigh the same, two objects that do not weigh the same. How many of one object are needed to weigh the same as another object, etc. Fill two identical containers (one with sand, one with flour). Weigh the containers and discuss the findings.

10. **A Gift For You**

Wrap with colorful paper, several size boxes containing objects of different weights. These need to be planned so that a large box would be lighter than a smaller box. Ask the child to place the packages in order from lightest to heaviest. These "gifts could also be used for arranging biggest/smallest.

Lightest **Heaviest**

11. **Ribbons**

Provide each child with three strips of sturdy ribbon, yarn twine, etc. Have each strip in a different color and each color a different length. Ask the children to find items in the classroom that are (1) the same length, (2) longer than, and (3) shorter than each of their ribbons. Young children should be asked to do only **one** of the three in the beginning of the year. Increase the exercise as the child's experience dictates.

12. **Yesterday/Tomorrow**

During the calendar time, extend the activity to include a time-frame exercise. Once the day and date have been identified, point out yesterday and recall activities of the day. Do the same with tomorrow and discuss what will occur. Reinforce the activity by continuing references, such as: "yesterday we went outside for lunch; tomorrow will be Friday; tomorrow we will have a visitor; yesterday we went for a listening walk."

13. **My Turn**

Place mechanical timers in the different learning centers. Explain to the children that the sound of the bell will tell them to change or allow a friend to have a turn. Supervise and reset the timers as needed. A game of self-competition can be developed by asking the child to count the number of times she/he bounced a ball, filled the bucket with bean bags, stacked the blocks, etc. Try and increase the number during the next turn.

14. **Tick-Tock**

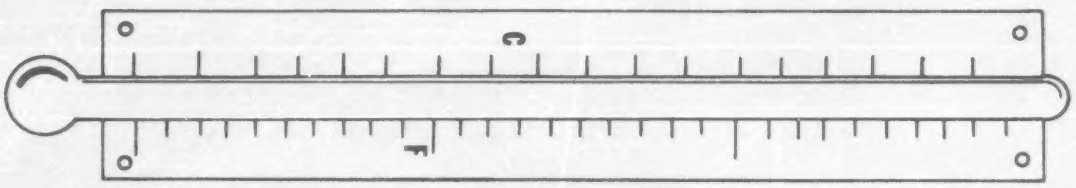
Draw several larger clocks. Using brackets on the hands, have the hours of the clock showing important times of the day such as snack time, lunch time, nap time, etc. Match pictures showing children eating, sleeping, outside, brushing teeth, etc., with the hours on the clocks. Have the clocks and pictures on a bulletin board with the hands showing the correct time for each activity. Example: 9:00—snack, 12:00—lunch, etc. Older children may be able to move the clock hands to match a picture activity. Refer the the clocks on the bulletin boards as the time occurs.

15. **Weighing Game**

Have a collection of several items of different weight. Each child in the group selects one object and goes on a search of the room to find anothe object of the same weight. The child returns with his/her "find" and compares the objects on the balance scale. Note any big difference and plan activities to help the child with this concept.

16. **Temperature**

Make a large simplified version of a thermometer. Mark the measures of 32 (cold), 98.6 (body temp.), and 212 (hot). Research your community weather to determine the norm for high and low temperatures. Be sure these are represented on your thermometer. Place old magazines on a table along with scissors, and ask the group to help you collect "hot" and "cold" pictures (snow, flowers, swimming suits, mittens, etc.) Mount the picture on poster board and cover with clear contact paper. Ask the children to place the pictures at the correct places on the thermometer. Older children should also be introduced to the Celsius thermometer.



17. **How Many?**

Collect popsicle sticks, long Tinker-toy sticks, unit blocks, dowel rods, rulers, etc. Ask the child to guess how many popsicle sticks are needed to make a line as long as the Tinker-toy stick, ruler etc. Write the "guess" on a paper or the chalkboard. If the child cannot recognize the numerals, place the guessed number alongside the work area. Then have the child place the popsicle sticks down end to end and find out if the guess was correct.

18. **Just a Minute**

Using a mechanical timer, sound the bell for the children. This may be done several times until the teacher is sure all children recognize the sound. Set the timer for one minute. Ask the children to clap their hands until the bell sounds. Repeat using other approaches: (1) stop a record after one minute, (2) cut as many strips as you can in one minute, (3) sit with your lips zipped for one minute, (4) march around the room for one minute, etc. This will help children in realizing the time span of one minute. The time may be increased as the year progresses.

19. **Morning/Evening**

Collect pictures showing morning and evening activities. On an 8" x 10" poster, mount a picture showing a child in pajamas. Paste pictures of articles needed to dress in the morning around the picture. Example: toothbrush, comb, shoes, towel, etc. Also include pictures of articles not needed, such as several toys, books, etc. Cover the poster with clear contact paper. Ask the child to mark the objects needed to get ready for school in the morning. For evening, mount a picture of a child in play clothes and include pictures of those articles needed to get ready for bed in the evening. Include pictures of other articles such as comb, boots, cap, raincoat, etc. Repeat the same directions using the second poster.

20. **How Much?**

Collect half-pint, pint, and quart milk containers. Set up the water tubs or water table. Place one cup measures in the water. Using the empty milk cartons, ask the children to fill each container counting the needed number of cups. Reinforce this concept at snack and lunch. Recall the number of cups in a half-pint carton milk. Allow the child to pour one-half or one cup of milk. Discuss "how much" milk the child has drunk.

APPENDIXES

APPENDIX A

Suggested Math Resources

Records

Bell Records
Columbia Pict[illegible] Industries, Inc.
1776 Broadway
New York, NY

Bowmar Records, Inc.
622 Rodier Drive
Glendale, CA 91201

Childcraft Education Corporation
20 Kilmer Road
Edison, NJ 08817
800-631-5652

Children's Record Guild
27 Thompson Street
New York, NY 10013

Folkways Records and Service Corp.
165 W. 46th Street
New York, NY 10036

Folkways/ Scholastic Records
906 Syvan Ave.
Englewood Cliffs, NJ 07632

Hap Palmer Record Library
Educational Activities, Inc.
Box 392
Freeport, NY 11520

Small World Records
761 Two Gateway Center
Pittsburg, PA 15222

Young People's Records, Inc.
100 Fifth Ave.
New York, NY 10013

Pictures

Childcraft Education Corp.
20 Kilmer Road
Edison, NJ 08817

Children's World
Elgin, IL 60120

David C. Cook
Elgin, IL 60120

Society for Visual Education, Inc. (SVE)
Chicago, IL 60614

Films and Filmstrips

David C. Cook
Elgin, IL 60120

Churchill Films
662 N. Robertson Blvd.
Los Angeles, CA 90069

Connecticut Films, Inc.
6 Cobble Hill Road
Westpoint, CT 96880

Coronet Instructional Films
65 S. Water Street E.
Chicago, IL 60611

McGraw-Hill Films
Bank Street College of Education
330 W. 42nd Street
New York, NY 10036

Pyramid Films
Box 1048
Santa Monica, CA

Three Prong Television Productions
1525 East 53nd Street
Chicago, IL.

Weston Woods Studios, Inc.
Weston, CT 96880

Children's Math Books

Adler, Peggy. *Sets & Numbers for the Very Young.* New York: Grosset & Dunlap, 1958.

Alain. *1, 2, 3, Going to the Sea; an Adding and Subtracting Book.* Englewood Cliffs, New Jersey: Scholastic, 1969.

Allen, Robert. *Count With Me.* New York: Platt & Munk, 1968.

_____. *Numbers.* New York: Young Scott Books, 1964.

Ambler, C. Gifford. *Ten Little Foxhounds.* New York: Grosset & Dunlap, 1958.

Asbjornsen, P. C. and Moe, J. E. *The Three Billy Goats Gruff.* New York: Harcourt Brace & World, Inc., 1957.

Atwood, Ann. *The Little Circle.* New York: Charles Scribner's Sons, 1967.

Auerbach, Marjorie. *Seven Uncles Come to Dinner.* New York: Alfred A. Knopf, 1963.

Austin, Margot. *The Three Silly Kittens.* New York: E.P. Dutton & Company, 1950.

Baker, Marybob. *Smiley Lion Book.* New York: Western Publishing Company, 1964.

Banner, Angela. *One, Two, Three with Ant and Bee.* New York: Franklin Watts, Inc., 1958.

Barr, Katherine. *Seven Chicks Missing.* New York: Henry Z. Walch, 1962.

Barum, Arline. *One Bright Monday Morning.* New York: Random House, 1962.

Behn, Harry. *All Kinds of Time.* New York: Harcourt, Brace & World, Inc., 1959.

Beim, Jerrold. *Country Garage.* New York: William Morrow and Co., 1952.

_____. *The Smallest Boy in the Class.* New York: William R. Morrow, 1959.

Bendick, Jeanne. *All Around You.* New York: The McGraw-Hill Book Company, 1951.

Berkley, Ethel S. *Big and Little, Up and Down, Early Concepts of Size and Direction.* New York: William R. Scott, 1960.

_____. *Ups and Downs.* Eau Claire, Wisconsin: E. M. Hale and Co., 1951.

_____. *The Size of It.* Eau Claire, Wisconsin: E. M. Hale and Co., 1951.

Bianco, Pamela. *The Doll in the Window.* New York: Henry Z. Walck, Inc., 1953.

Bishop, Claire. *Twenty-Two Bears.* New York: Viking Press, 1964.

Bishop, Claire H. and Wiese, Kurt. *The Five Chinese Brothers.* Eau Claire, Wisconsin: E. M. Hale and Company, 1958.

Blair, Mary. *The Up and Down Book.* New York: Western Publishing Company, 1964.

Blegvad, Lenore. *One is for the sun.* New York: Harcourt, 1968.

Borten, Helen. *Do You See What I See?* New York: Abelard-Schuman, 1959.

Bradfield, Joan and Roger. *The Big, Happy 1-2-3.* Racine, Wisconsin: Whitman Publishing Company, 1965.

Branley, Franklyn. *Big Tracks, Little Tracks.* Crowell-Collier, 1960.

Brann, Esther. *Five Puppies for Sale.* New York: The MacMillan Co., 1948.

Brenner, Barbara. *Five Pennies.* New York: Alfred A. Knopf, 1963.

Brenner, B. *Mr. Tall and Mr. Small.* Reading, Mass: Addison-Wesley Publishing Co., Inc., 1966.

Bright, Robert. *My Red Umbrella.* New York: William Morrow, 1959.

Broderick, Jessica P. *Find the Way Home.* Chicago: Rand McNally and Co., 1953.

Budney, Blossom and Bobri, Vladimir. *A Cat Can't Count.* New York: Lothrup, Lee, and Shepard Company, 1962.

_____ *A Kiss is Round.* New York: Lothrup, Lee, and Shepard Company, 1954.

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APPENDIX B

Math Center

Select math materials that can be used in many ways and give consideration to the safety of the materials. A variety of materials are needed to aid children in learning math. However, the display of the material is important. The center should be furnished with shelves, a variety of containers, small tables and comfortable chairs and/or a rug. In this way, the child can easily see the materials, use them, and put them away.

Some suggested materials to be included in the Math Centers:

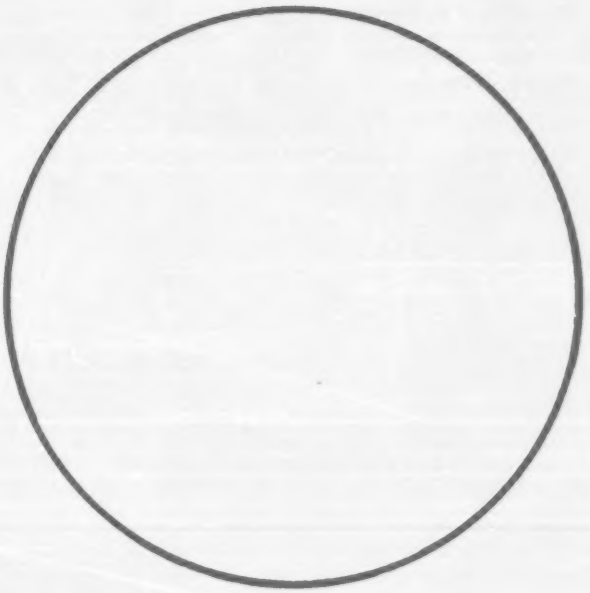
balance scales
balls
boxes/lids
buttons
calendar
cash register
clock
containers (jars, cans, pie tins, etc.)
cubes
dominoes
dowels
egg carton
flannel board/objects
geometric shapes
pegboards and pegs
play money
poker chips
puzzles
margarine tubs
nested toys
numerals
number cards
number line
ribbon
rods and counters
ruler
scales
spools
straws
telephone
thermometers
timer
unit blocks
wooden beads

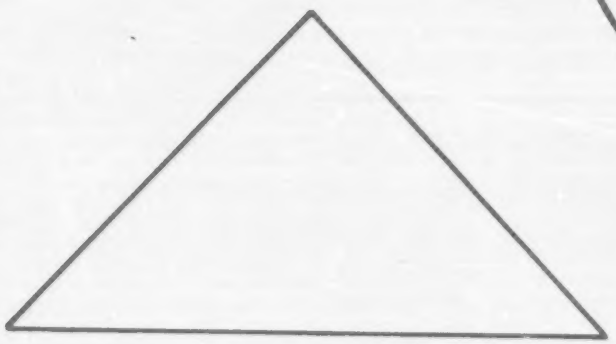
NOTE: The math center should be changed frequently to offer varied learning activities. Several commercial kits are available and offer an excellent vehicle for learning.

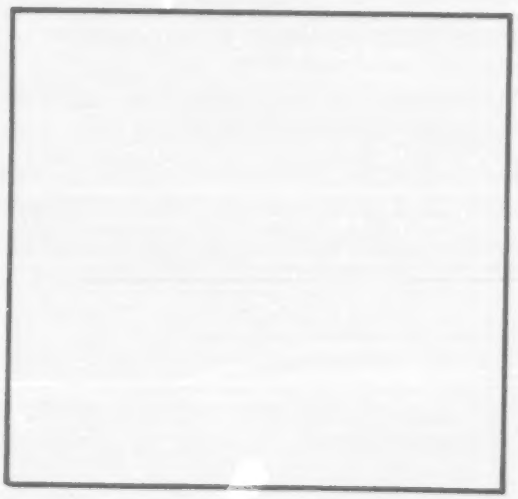
APPENDIX C

Shape and Numeral Patterns

Shape Patterns

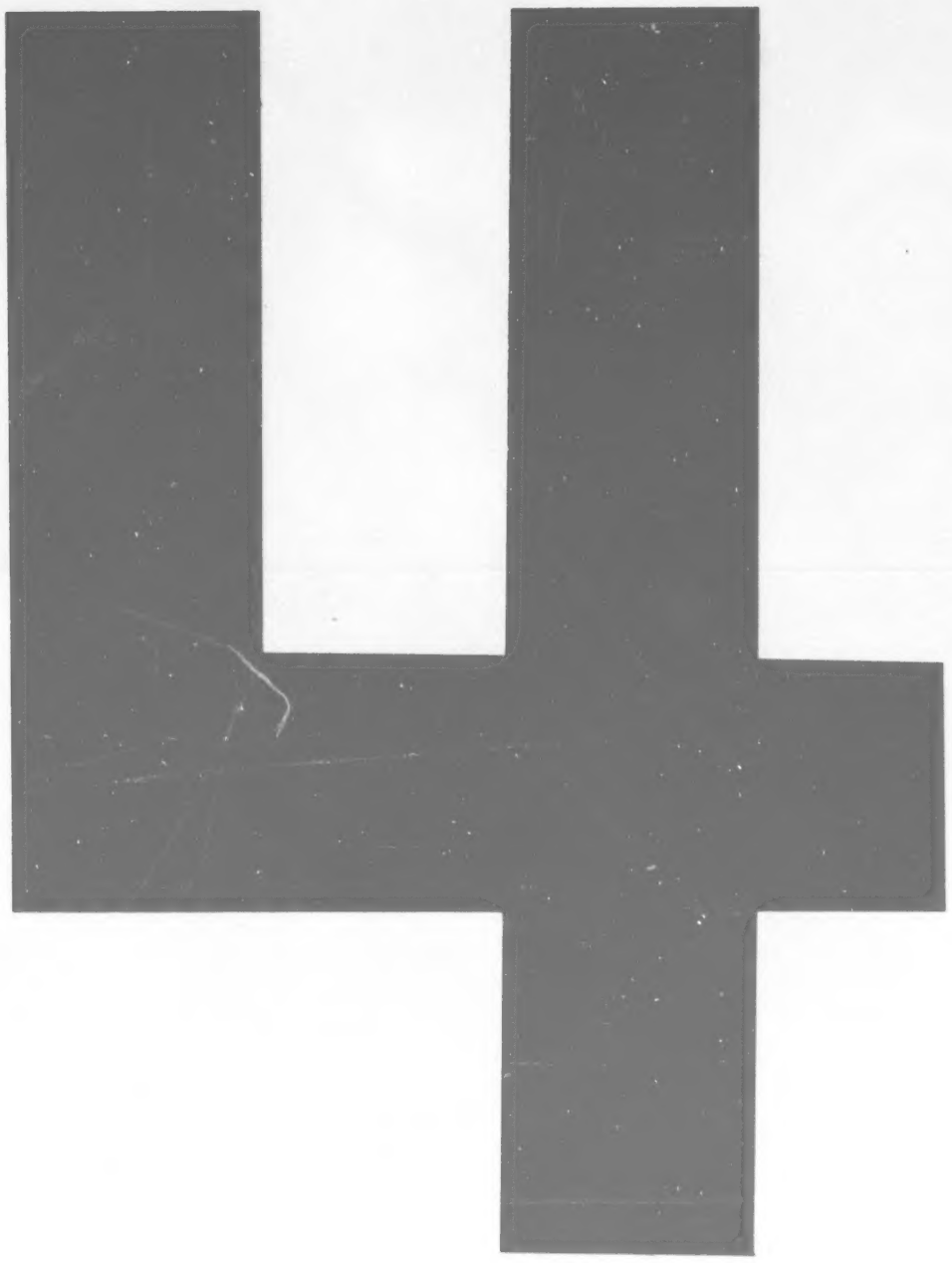






Small Numeral Patterns

5 6
8 7 9



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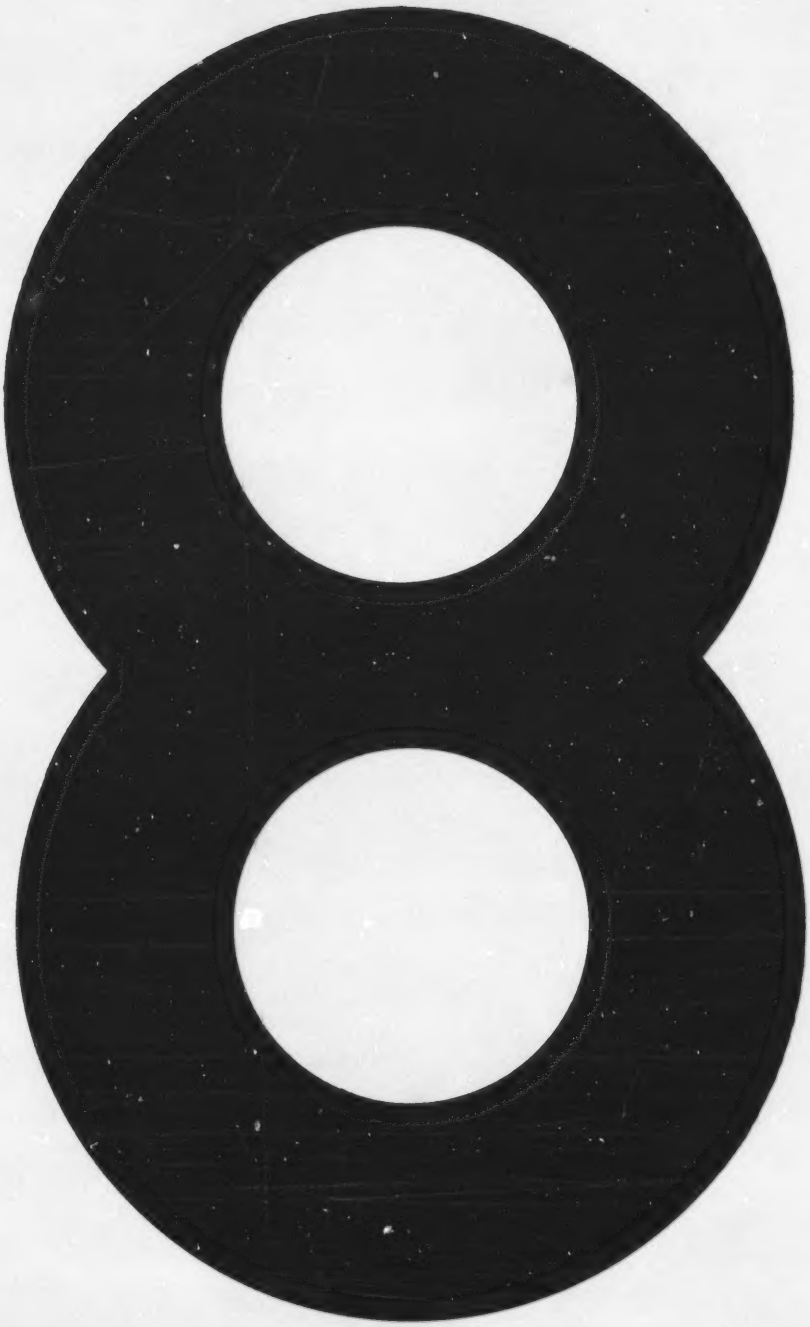

10

Math Vocabulary

CAPACITY	QUANTITY	SPACE	TEMPERATURE	TIME
cup	all, part	above, below	Celsius	a long time ago
full, empty	amount	around	Fahrenheit	after, before
gallon	another	behind	hot, cold	day, night
half-cup	both	beside	thermometer	evening
hold	b ch	between	warm, cool	half-hour
measure	cent	close		hour
one-fourth	count	edge		late, early
pint	crowd	farther		lunch time
quart	dime	first, second, etc.		minute
	divide	front, back		month
	dollar	here, there		morning, afternoo
	dozen	high, higher, highest		nap time
	half	in, out		next week
	many, few	inside, outside		now
	more, less	last		once
	most, least	low, lower, lowest		second
	nickel	middle		snack time
	pair	near, far		soon
	pound	next to		twice
	quarter	on		until
	several	over		week
	single	right, left		when
		together		year
		top, center, bottom		
		up, down		

SIZE AND WEIGHT
balance
double
equal
even
heavy, light
inch, foot, yard
large, tiny
little, big
long, short
ruler
same, different
scale
small
tall, short
weigh
wide, narrow
yardstick

ADAPTED FROM: Atlanta Public Schools, "Pre-Number Activities," **Child Care and Development Occupations: Competency Based Teaching Modules,** *Washington, D.C.: Government Printing Office, 1974, Unit 19.*

APPENDIX E

Activity Plan

NAME _____ DATE _____

Name of the Activity _____

1. Goals for the Activity _____

2. Learnings from the Activity _____

3. Equipment and Materials Needed: _____

4. Procedure Steps: _____

5. Guidance Suggestions:

   a. How to involve children:

b. Questions children might ask:

c. Ideas for special needs children:

6. Safety Precautions:

7. Evaluation and suggestions for future use:

8. Follow-up Activities:

9. Clean-up:

APPENDIX F
Math Presentation

INSTRUCTOR CHECKLIST:

ACTIVITY	RATING *	
	Acceptable	Unacceptable
1. Chose an activity appropriate for the group		
2. Chose appropriate equipment		
3. Arranged equipment in orderly manner		
4. Prepared materials		
5. Chose appropriate materials		
6. Arranged materials in orderly manner		
7. Distributed supplies		
8. Gave oral directions that were understandable		
9. Encouraged individual participation		
10. Encouraged group participation		
11. Provided individual attention		

* All applicable items must be rated acceptable

Math Presentation

INSTRUCTOR CHECKLIST:

ACTIVITY	RATING *	
	Acceptable	Unacceptable
12. Provided for children with special needs		
13. Practiced and explained safety procedures		
14. Encouraged children to ask questions		
15. Encouraged children to be observant		
16. Encouraged children to assume responsibilities		
17. Praised individual achievements		
18. Encouraged children to verbalize what they had seen and done		
19. Practiced positive guidance techniques		
20. Guided children in cleanup		
21. Objectively completed self-evaluation		

* All applicable items must be rated acceptable

SOURCE: VTECS Catalog, *Child Care Worker*, 1975, pp. 68.

APPENDIX G

Resources for the Teacher

A Practical Guide to Early Childhood Curriculum

The C. V. Mosby Co.
11830 Westline Industrial Drive
St. Louis, Missouri 63141.

A resourceful book of meaningful teaching ideas containing a concrete curriculum approach for children 3 to 6 years of age.

Experiences in Math for Young Children

Delmar Publishers
50 Wolf Road
Albany, N.Y. 12205

This book includes numerous activities designed to teach the basic math concepts and skills to young children.

Kindergarten Learning Games

T. S. Denison and Company, Inc.
Minneapolis, Minn. 55431

A collection of games, devices, and activities to stimulate the child to think, analyze, discover and solve a problem.

Launch

Educational Service, Inc.
P.O. Box 219
Stevensville, Michigan 49127

A handbook of early learning techniques for the preschool and kindergarten teacher. Duplicating masters are available.

Math Magic

Humanics Press
881 Peachtree St., N. E.
Atlanta, Georgia 30308

An innovative mathematics instructional manual for parents and teachers of preschool children.

Strategies for Teaching Young Children

Prentice-Hall, Inc.
Englewood Cliffs, N.J. 07632

This book deals with curriculum ideas appropriate for children between the ages of three and seven. Activities rely heavily on materials that are inexpensive and teacher-made.

Workjobs

Addison-Wesley Publishing Co.
9 Dunwoody Park, Suite 120
Atlanta, Georgia 30341
(404)458-8311

Teacher-made, activity-centered learnings for early childhood education.

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